THE

MEDICAL EXAMINER,

AND

RECORD OF MEDICAL SCIENCE.

NEW SERIES.—NO. XCVII.—JANUARY, 1853.

ORIGINAL COMMUNICATIONS.

Surgical Sketches. By W. E. HORNER, M. D., Prof. of Anatomy in the University of Pennsylvania, Senior Surgeon at the St. Joseph's Hospital, &c. &c.

A Military Hospital at Buffalo, New York, in the year 1814.

(Continued.)

The following general results came within my experience:

1. Buckshot wounds seldom did much harm, vital parts excepted. Those that I saw were principally on the persons of prisoners of war. They approach so near a simple laceration without contusion, that they soon get well. I have now one sticking very tranquilly in an os femoris, as if it had grown there. They are, I understand, peculiar to the American service. They give a more barbarous character to warfare, and probably without an equivalent advantage. This, however, I submit to the decision of military men. The English officers took that view of them, and considered them simply as mangling unnecessarily, but interfering with the effectiveness of the principal ball. Their momentum is too weak to penetrate far; really vital parts are

well covered and make but a small portion of the entire area of the body. It would, perhaps, be better for our national credit to discontinue such missiles, at least in war with civilized nations. The only recommendation that I ever heard of them was, that as they inflict a wound, the character of which is of course unknown to its recipient, he retires from the field of battle. They are therefore advantageous simply in multiplying wounds, though the latter may not be serious. If their use be a real advantage in gunnery, they can be thrown by one party as well as by the other, so that things are thus equalized. I have understood that their use at present is not so indiscriminate as formerly, and that they are resorted to principally in close contest.

Should they open articular cavities, then the mischief is of course considerable. Col. Miller of the U. S. Army, in an expedition to Long Point, opposite Fort Erie, had his knee joint perforated in that way, and inflammation and suppuration followed; he finally, after a long treatment, submitted to amputation, but without benefit, as he died shortly after.

2. Bullet wounds which did no injury to the bones, or to the great cavities, generally did well; a slight inflammation and stiffness followed, which went off in a few days. Our most common dressing in these cases, was basilicon, simple cerate, or tallow; poultices or discutients were seldom absolutely indicated. The wound was cleaned by the efforts of nature, in eight, ten or twelve days, it being succeeded by a copious discharge of pus, which gradually diminishing, the wound healed.

3. When the large cylindrical bones were broken, our resort was, for the most part, amputation; we had but few cases, the result of which encouraged us to attempt the saving of others. Out of many cases of fractured os humeri and os femoris which I saw, a majority of the patients died, or were compelled to submit finally to amputation; there being but few instances of perfect recovery from such accidents. The latter circumstance was partly attributable to the largeness of the English musket balls, which almost always produced an extensively comminuted fracture when they struck a hard bone. Amongst the instances of recovery, where the thigh bone was broken, was that of Lieutenant-Colonel M'Neil of the 11th Infantry, and Captain Cilley of the same regiment, and a few privates of other corps.

Col. McNeil was wounded at Bridgewater by a ball which passed

through the thigh, somewhat above the patella, and under the tendon of the extensor muscles, breaking in its course some portion of the condyles of the os femoris. The contusion was great. Much inflammation and suppuration followed, but he finally recovered with a joint somewhat stiff. He was a man of vigorous, healthy constitution, and stood more than six feet in height. The probability is that the synovial cavity was not opened; he was attended by another surgeon.

Captain Cilley had his thigh comminuted near the middle by a ball; his attending Surgeon, Dr. Trowbridge,* made four incisions into the thigh, so as to afford room for the discharge of the fragments; they were passed out in a few weeks of inflammation and suppuration, which extended but little beyond the immediate region of injury. A rapid recovery with a useful leg followed, though the length of the latter was reduced three inches.

In the cases of recovery which came under my observation, the thigh bone was broken somewhere in its lower half; this fact corresponds with the testimony of those surgeons who have had the greatest experience in gun shot wounds.† A short time after a gun shot fracture of a large bone, the limb became highly inflamed, and swollen to twice its natural size; sinuses, which opened into the wound, were the almost invariable consequences of this inflammation; after they had existed for a time, the patient's health was destroyed; he became afflicted with diarrhœa and hectic fever, which were very frequently fatal.

4. During the heat of the summer our large amputations were very unsuccessful, so much so, as almost to discourage us from performing them; many of the recent stumps mortified; in others that did not, the patient gradually sank into the arms of death. In the latter, I observed that there was great retraction of the muscles, and frequently the periosteum separated from the bone, for a considerable distance up. Mortification of the extremities from gun-shot wounds, was very common at this period; a variety of tonic and other means were adopted to arrest its progress, and amongst the latter amputation;‡ nothing succeeded.

*Boston Med. and Surg. Jour. 1838, p. 341.

†See Thomson's Reports of Military Observations in Belgium.

‡See Larrey, (Memoirs of Military Surgery,) who recommends this practice.

5. Wounds attended with much discharge were frequently infested with maggots, the ova of which were deposited by flies (Musca carnaria) in the bed-clothes and dressings. This accident will probably be attributed to negligence, but the most diligent attention from nurses could not prevent it. It was a most serious evil, and frequently involved the life of the patient from the irritation produced.*

It was marvellous to see how deeply these animalcules would work their way into wounds, producing, in some instances, as complete a dissection of the muscles, as if it had been performed by the knife. I learned on this occasion from a common soldier that the expressed juice of the Elder Bark, (Sambucus nigra,) sprinkled on the dressings and bed of the patient, would keep the flies away; and on trial I found it to be so. The suggestion was made in the case of a gallant artilleryman from Virginia, John Horton, in Captain Ritchie's company, and who had suffered the loss of both legs from a cannon shot, followed by amputation. The interest felt in him induced me to place a special nurse to prevent the approach of flies. He was saved from the latter accident, but died in a few days, from his wounds.

6. I saw a few cases of wounds, through the large joints. They were more painful than any other wounds, the patient suffering excruciating torture for several weeks. Somehealed by anchylosis, but we most frequently had in the end to amputate, or to lose the patient, in consequence of sinuses and hectic fever. Sometimes a low delirium took place, particularly in gun-shot wounds of the knee joint, in which the patient died in a few days after the injury. Wounds through the ankle joint were not attended with so much danger.

7. Gun shot wounds of the brain were in some instances very slow in being fatal. John Price, a private of the 1st regiment of Infantry, was wounded at Bridgewater, on the 25th of July 1814; the ball penetrated, transversely, the forehead, passed through the brain above the ventricles, and fractured the opposite part of the cranium; he died on the 2d of September following, five weeks after the injury. Several other examples occurred, in which the substance of the brain was wounded by balls and by tomahawks,

*An analogous fact is quoted from Alanson, by J. Bell.

when the patients continued to live for many days; but I saw no instance of final recovery from such accident.

8. Several persons recovered who were shot through the throat, in such a manner as to endanger the carotid arteries and the important nerves. Amongst them were Brigadier, afterwards Major General Ripley,* and Lieutenant, afterwards Major M'Intosh,† of the Rifle Corps. Both these officers lost the use of their upper extremities for a long time, and suffered exquisite pain in them. The latter discharged the ball, per anum, several months after he had been wounded.

9. Several recoveries from wounds through the thorax took place. Amongst them were Lieutenant Colonel Trimble, afterwards in the United States Senate from Ohio; and an Ensign of the 19th infantry. Bleeding to a very great extent, was used in all these cases. Lieut. Col. Trimble received a ball near the junction of the fifth costal cartilage with the sternum; the ball penetrated the lung and emerged from the back near the angle of the fifth rib. The hemorrhage from the lung by the mouth was most copious, and at each expiration blood poured freely from the external wounds, which of course implied a large collection of it in the pleura. Dyspnœa, feeble pulse, and cold extremities, left him apparently but little chance of life, but on the fifth day the symptoms mitigated. He was bled in the subsequent twenty-two days, six times by his attending surgeon, Dr. Amos Trowbridge,‡ and finally recovered. While a member of the Senate of the United States, he died at Washington in 1822, from a pulmonary affection, brought on by exposure in the preceding season.

10. Wounds of the abdomen, and its contents, were, in several instances, recovered from; amongst such were Lieutenant Cisna, of the 19th infantry, and a Sergeant White. In the first, the ball entered in the anterior part of his belly, below the navel, and

*Case reported in the New York Medico-Chirurgical Journal, by his attending Surgeon, Dr. Allen.

†Case reported in the Eclectic Repertory, by Dr. W. H. Henning, of the Rifle Corps. Lieutenant M'Intosh was at different times under the care of us both. He lived for many years afterwards and was with distinction engaged, I believe, in both the Indian war in Florida, and in the late Mexican War.

‡For details, see Bost. Med. and Surg. Jour. for 1838, p. 344.

came out near the spine; about six weeks afterwards a button was discharged from the wound, near the spine, which had been carried in along with the ball.

Sergeant White's belly was penetrated by a ball, which also took in some fragments off the breech of his musket. The fragments were afterwards discharged at the orifice of the wound, during a free suppuration of it.

11. A case terminated happily where the ball had entered above the symphysis pubis, and came out posteriorly; the fundus of the bladder was penetrated; for several weeks there was a constant dripping of urine from the anterior wound; it at length ceased to flow in this direction, and came in the natural way.

12. In four cases of wounds of the spine, they all had pretty much the same symptoms; being attended with loss of sensibility and motion in all the parts below the injury.

For the first few days the patients were unconscious of their danger, the strength and activity of the upper extremities and parts of the body; and the quickness of intellectual operations, being very encouraging. It was necessary to introduce the catheter twice a day, or more often, in these cases; and to expel the contents of the bladder by pressing above the symphysis pubis. Purgatives were also necessary. In all these cases mortification took place on the sacrum, in consequence of pressure. A great irritability of the stomach occurred in each, a few days before death.

So far as I remember, in those and other similar cases, hiccup has always attended, and also delirium, before the final scene.

13. In amputations of the leg, to get the flap from the integuments, on its posterior part, was decidedly advantageous, in some respects, regarding the healing of the stump. If, instead of this, a circular flap was made, the part of it covering the sharp edge of the tibia was most generally ulcerated through, and the ulcer remained exceedingly painful and absolutely incurable, till the absorbents rounded off the tibia. This disadvantage was very striking with the circular flap adjusted transversely instead of vertically, *i. e.* antero-posteriorly. The flap extending from behind is, however, apt to separate, or rather not to attach itself

to the muscles; and, in such case, when suppuration came on, it retained the matter, and sometimes ulcerated through. My subsequent experience has led me now to prefer the circular cut with the vertical adjustment, and a bevel cut upon the spine of the tibia saves the absorbents a long work in rounding it off.

I saw an attempt to make a flap of the gastrocnemius and solæus muscles, on the principle recommended by Mr. Hey and others. It succeeded badly, the flap became very much inflamed and swollen, left entirely the surface of the stump, and could not be brought back; it gave the limb the appearance of a club. After a variety of means was fruitlessly tried to bring about cicatrization, a second amputation became necessary in order to save the patient's life.

A similar attempt on my own part since, in the Philadelphia Alms-House hospital, though not attended with such bad consequences, was very unsatisfactory, from the difficulty in making the flap unite.

Two amputations of the inferior extremities, a thigh and a leg, were performed by an inexpert surgeon, in which no flap was left; the patients recovered, however, after a very long confinement. The stumps became conical from the retraction of the muscles, and a second sawing of the bones was requisite to the cure.

Two amputations at a delayed period, that is when inflammation had set in, were performed. The suffering of the patients was much beyond the ordinary agony. The quickly fatal results proved the necessity of attending well to the rule, that such operations are never to be performed for severe projectile wounds, except in a few hours after their reception; or after several weeks have elapsed, and the symptons of inflammation are entirely gone.

Soldiers are much disposed to repress the expression of pain, considering it unmanly. When this natural mode of easing the circulation of the lungs by groans and expiration was withheld, which can only be done by holding the breath, I came to the conclusion that it was highly disadvantageous to the individual. Chewing a bullet is a resort which should also be discountenanced. The introduction of ether since that period, will now make these cautions less necessary. The amount of pain excited in different persons varies very much. I assisted at an amputation of the leg of a soldier who was smoking tranquilly during the whole operation, his ease not seeming to be an affectation.

I did not see a case of recovery where amputation had been performed on both legs, or on both thighs, in one subject; but I saw a few recoveries *where* a leg and an arm, or two arms had been resected. Several double accidents of this kind happened during the seige of Fort Erie. In one instance, a cannon ball entered a hospital, and ranged along the feet of a row of bedsteads, carrying away several legs in its course. In another instance, a young rifleman, of eighteen, belonging to Captain Irvine's company, had both arms taken off above the elbow joint, by a cannon shot. The ball being nearly spent, he then started in pursuit of it, not appalled by what had happened, but continuing to kick it as an enemy until its motion gradually subsided. His gallantry and coolness on this occasion, procured him the notice of several distinguished officers. I saw one case of recovery from amputation at the shoulder joint. This operation was performed by Dr. Gales, of the 23d infantry, whose services and intrepidity gained a high distinction.

14. Some cures, from extensively lacerated wounds, took place; amongst them, J. King, a private in Captain Biddle's company of artillery. He had the whole posterior part of his thigh, from the buttock to the ham, torn up by the fragment of a shell, and the muscles laid bare, as in a dissection. This extensive wound, in which there was a great loss of integuments, cicatrized, and got nearly well in three or four months. A private in the Infantry already alluded to, was scalped in a circular line, just above the tips of his ears. Granulations arose from the exposed surface of bone and pericranium, in a few days, and cicatrized very kindly; the discharge of pus was, for a long time, very considerable.

15. In one case I succeeded in a very rapid cure of fistula, in the lower extremity, produced by fracture in the lower part of the tibia. An intense and extensive inflammation of the whole limb followed the injury; this was succeeded by the deposition of matter all up the leg, and extending even above the knee. When the suppuration was pretty well established, by pressing carefully the matter from the sinuses for two or three days, so as to empty them completely, I succeeded in obtaining a radical cure, by placing compresses on the course of the sinuses, and securing them by a tight roller applied from the foot to the groin. The fracture did very well.

This manner of treating inflammation of the extremities, has since been very fully elucidated by the celebrated French Surgeon, Velpeau, in his writings upon the principle of what he calls systematic compresses.

16. I treated two cases of traumatic tetanus; the one was produced by a gun-shot wound through the pectoralis major muscle; the other by the same kind of wound through the sole of the foot. The first was managed with large quantities of laudanum; the patient died. The second was treated with laudanum also; and according to the plan proposed and adopted by Larrey, the surface of the wound was cauterized with a red-hot iron. A temporary remission was produced in the spasm, but it returned, and the patient died the day after the application.

Such were the general observations resulting from the surgical occurrences which came under my personal notice.

As in most active campaigns, the duties of the surgeon were too urgent to allow time for the taking of very complete notes on cases. Hence, general recollections have to be substituted, to a large extent, instead of precise tabular statements. At this period of time, when the actors of that day have so generally passed off the stage, it is a matter of sincere regret to me that so little has been published by others; and from recent enquiries at the War Department, it appears that no reports are there to supply this deplorable defect. It is to be hoped that the few medical survivors of this remarkable campaign may yet be stimulated to give in their full experience by publications, or at any rate make a deposit of it in manuscript at the Medical Bureau of the Army. How precious would such details of the American Revolution be; yet there are few or none.

The following account of the diseases and weather will probably be read with interest:

* *Report of Hospital Surgeon* LOVELL, *of the state of diseases among the Troops on the Niagara Frontier, during the Campaign of* 1814.

"The troops engaged in this brilliant campaign on the Niagara, began to collect there about the beginning of April, under the command of General Scott. They were encamped on an eminence north of Buffalo

* From Medical Sketches of the Campaigns of 1812, '13, 14, by Jas. Mann, M. D, Hospital Surgeon, &c. Pp. 160 et seq. Dedham, 1816.

village, having a thick wood in front, which extended to the bank of the river, the ground being in part swampy and wet. On the left of the encampment was a large marsh, extending from the high ground to the margin of the lake. The winds from the lake, at this season, were remarkably cold and chilling; resembling, in sensation, exactly the east winds which prevail on the Atlantic during the spring; and had an astonishing effect upon vegetation. The trees around the encampment having the appearance of winter, while those five or six miles from the lake shore, were covered with verdure. Notwithstanding this, the troops were remarkably healthy; only one or two deaths occurring before they crossed the Niagara, on the 3d of July—even the demon diarrhœa appeared to have been exorcised by the mystical power of strict discipline and rigid police.

In June a number of new recruits joined the army; and several were collected from the various hospitals; the latter principally composed of the miserable refuse of society, who never had energy enough to demonstrate that they lived, and scarcely enough to prove that they existed. With these last detachments, arrived our old acquaintances, which, however, were easily checked; and much seldomer returned, than in any former campaign. This was undoubtedly to be attributed to the improvement in police.

During June, the weather became very warm, and a thick fog arose from the marsh and woods at sunset, and remained for some time after sunrise. During this month, intermittent fever, acute rheumatism, and typhus fever were the prevailing complaints. The intermittents were very irregular and obstinate. Arsenic, which was the sovereign remedy the last year, on this frontier, had now very little effect; while the bark, which then failed, was now generally successful. Some obstinate cases, in which every thing else had failed, were cured by the sulphate of copper. Three patients, who had tried most of the remedies with which we were supplied, without effect, cured themselves at once, by taking a pint of brandy undiluted, in which was mixed a large quantity of ground black pepper, on the accession of the cold stage. This was not followed by inebriation nor any appearance of undue excitement. It led me to use opium in much larger quantities than I had been accustomed. It was begun with four or five grains at a dose, and increased until some stimulating effects were produced, or the disease cured. The success of this prescription was very great during the whole season. In fine, of the remedies used this season, emetics had but little effect, even at first; and the mineral solution scarcely any—bark succeeded in the majority of cases; and opium very seldom failed. A few obstinate cases were checked for several periods, by the application of tourniquets to one leg and one arm; the disease however recurred; the tourniquets then had no effect; but remedies, which had before failed, now succeeded, after the interruption thus produced in the morbid associations.

Rheumatism, during the whole war, generally put on a remitting form; this was particularly obvious whenever intermittent fever prevailed, and more especially this season. Bleeding was but seldom necessary; after a brisk cathartic, bark was given in the quantity of from four to eight drachms during the remission, and a large dose of

opium on the accession of the fever; and always in sufficient quantity to relieve the pain. This treatment was very generally successful. I was induced to try it, in many cases, where the remissions were very slight, and generally effected a cure. In these, however, bleeding or purging were premised, which produced more perfect remissions. In short, I considered the bark and opium the remedies for rheumatism, particularly when intermittents prevailed, and for the most part succeeded.

Many of the cases of typhus, about the end of May, were remarkably severe. The most prominent symptoms were great prostration of strength, and delirium; of the species not attended with symptoms of great arterial action in the head, local applications as usual having no effect upon it. Symptoms of recovery were not observed in these cases, until the end of the third week. The treatment adopted was strictly that of Fordyce, and recovery took place in every instance.

On the first of August, a general hospital was established at Williamsville, eleven miles east from Buffalo. The number of sick, during the remainder of the season, at this place, varied from 3 to 400; the number of wounded being somewhat greater.

The troops suffered much during the seige of Fort Erie; and soon after it was raised, the rainy season commenced. Dysentery and diarrhœa were the principal diseases. I became fully convinced, after a fair trial of every medicine to be obtained at this place, of the decided advantage of ipecacuanha in various forms and doses, to any other remedy. The remarkable effects of this medicine, which Fordyce considers as acting specifically in typhus fever, led to the conclusion, that the febrile symptoms attending the latter stages of diarrhœa were in fact a true typhus, supervening upon the former complaint. Hasty in his treatise on dysentery, he speaks of several complaints, which are often combined with typhus fever; and are then generally contagious; and I had observed that the nurses of the wards, where diarrhœa prevailed, were often attacked with typhus, accompanied with diarrhœa, or a great tendency to it. Decided benefit had often been observed from small doses of ipecacuanha, with mucilaginous drinks, in an irritable state of the stomach and bowels, which appeared to be owing to a degree of inflammation extending through the mucous coats; and not attended with febrile symptoms; and it is probable that the good effects of the remedy, in the cases now referred to, were in some measure to be attributed to this mode of operation. Intermittent fevers and rheumatism prevailed during the whole season, and varied but little from the cases in May and June. The cases of typhus among the regular troops were generally mild.

About the end of September, a large detachment of militia crossed the Niagara, under General P. B. Porter. Diarrhœa, typhus and idiopathic dysentery very soon made their appearance among them; the two latter were extremely severe. As these patients were not sent to the general hospital, until they had been sick for some time, I saw only the latter stages of these complaints. The dysentery was at this period very obstinate; the bloody discharges and tenesmus incessant, and the prostration of strength as usual most dangerous. In this state, relief was very generally obtained from injections of a decoction of ipecacu-

anha, sometimes combined with laudanum; at others, the irritability was first reduced by an injection of laudanum alone. The decoction was often rejected immediately; it had, however, some effect even then, so that by repeating it several times, it would finally remain, and give relief. Blisters to the abdomen often had a very good effect; but no application to the part appeared generally to prove so beneficial, as a poultice of slippery-elm bark to the whole abdomen, often repeated. It relieved the tenesmus, and produced a gentle diaphoresis, which was promoted by warm mucilaginous drinks, a mixture of tinct. opii. and tinct. ipecac. This was the only treatment found beneficial in the latter stages of this complaint, and it very generally succeeded. Typhus, among the militia, was very severe. Patients were seldom sent to the general hospital, until the third week of the fever; and the treatment had been different, as the whims of the attending surgeons. The most usual practice, however, among them, was to blister the patient almost from the crown of his head to the soles of his feet; so that the chief difficulty was to remove the irritative fever induced by this *empirical, slovenly* practice. In some, calomel had been employed, but generally without any obvious effect, except increasing the danger of the patient. At this stage of the complaint, and under these circumstances, no general method of treatment could be adopted, except remedying the mischief which had been done. The cure was principally attempted by removing every cause of irritation, as appeared most urgent, and trusting to nursing and nourishment. Under this plan many appeared to be in a fair way of recovery; but in the course of the fourth week, a small circumscribed spot of inflammation showed itself in the face, generally, near the angle of the mouth. In a few days the whole side of the face swelled; this tumor was hard and pale, resembling the color of a white swelling of the joints. It was not in the seat of the parotid gland, but anterior to the branch of the lower jaw, and was attended with a most profuse and fetid salivation, apparently from irritation communicated along the salivary duct, as the liver and gall-bladder are excited by the chyme. In a few days more the red spot began to assume a livid appearance, and symptoms of incipient mortification. In a short time, the mouth was literally extended from ear to ear, exposing the backmost grinders on both sides. All the remedies usually employed in this species of disease, were employed without visible benefit. The only article which appeared to produce any good effect was charcoal, which, however, seemed only to prolong the sufferings of the patients. Three attacked with this affection had severally so far recovered as to have a good appetite, and sit up a great part of the day. Their strength and appetite held out surprisingly, after mortification had taken place. I have since seen two instances among citizens; one in Boston, on a young boy. He had so far recovered as to sit up; he took nourishment with a good appetite, and every symptom of fever had disappeared; when, about the middle of the fourth week, the swelling, salivation and mortification took place, and shortly he sunk. It should be added, that in the majority of these cases not a particle of mercury had been used in any form."*

*The same disease was observed by Surgeon Purcell in the Military Hospital, Burlington, Vt., in the autumn of 1814. See Mann, loc. cit., p. 164.

Several interesting cases of wounds occurred in our hospital after the battle of Chippewa; many operations were performed by the regimental surgeons on the field of battle, but a majority of them were left for the hospital staff. I shall relate a cases, with the success attending their treatment.

CASE 1.—A private in the 11th regiment of infantry, received a wound from a grape shot in the right breast, between the nipple and sternum; the ball passed under the sternum, obliquely downwards, and emerged about four inches from the sternum on the left side, beneath the edge of the pectoralis major. The first time I saw this patient was on the third day after the reception of the injury; he said he had bled a great deal, and his clothes still showed the marks of considerable hemorrhage. I presumed that the internal mammary artery was cut or ruptured; however, as the wound had ceased to bleed before I saw him, the condition of the artery did not excite much attention.

The patient's pulse was feeble and quick, and he complained of great stiffness in his breast; his breathing was regular but hurried; I prescribed a light diet for him, and applied the common adhesive plaster to his wound on each side. I was much struck with the circumstances of this case, for the ball had passed between the sternum and mediastinum without producing a solution of continuity in either, which, had it injured the latter, would have been known by the state of respiration. I went to visit him on the fourth day, having obtained the advice and assistance of Dr. Thomas, hospital surgeon. The patient's pulse had become full, he had a slight cough, and complained of wandering pains in his breast, superadded to those occasioned by the wound. The depleting plan was here evidently indicated. I bled him to the amount of sixteen ounces, and dressed the wound as usual; in the afternoon I bled him again, as the symptoms had not been mitigated. By bleeding four or five times more, once a day, or on alternate days, the inflammatory symptoms were thoroughly subdued, and he no longer complained of his breast, except in the wounded part.

About the tenth or twelfth day the suppuration was so profuse as to require three or four dressings in the twenty-four hours.

His appetite finally returned, and his excretions were regularly performed; he was, however, from being a robust man, much reduced. As the suppuration diminished, the granulations sprung up; in about fifty days the cicatrix was completed, and his health, in a considerable degree, restored.

Case 2.—Sergeant Smith, of the 11th infantry, was wounded the 5th of July, in the breast, by a musket ball. The ball entered on the left side, between the sixth and seventh ribs, and came out near the spine on the same side. I saw him on the third day after the injury. He then labored under oppression of breathing, and his muscular strength was much prostrated. The sides of the wound were tumefied and inflamed; I, therefore, could not make a satisfactory examination of the direction of the ball. I supposed, however, from his anxious and hurried breathing, that the lungs were wounded. I bled him to the amount of a pint, and dressed his wounds with yellow basilicon. On the fourth day I bled him again; this bleeding seemed to relieve him much. I enjoined on him the strictest antiphlogistic diet that the nature of our hospital stores admitted of.

By some new arrangement in the wards of the hospital, he was left out of my list, and transferred to my assistant, Dr. Coltrin; I therefore did not see him again for eight or ten days. At that time the wounds in his side were discharging matter very profusely, and a few granulations had risen up.

Air was inhaled and exhaled through the wound in the fore part of his breast, but not through the posterior wound. He believed himself to have been struck by two balls at the same time; if this be the fact, it will account sufficiently for the air rushing only through the anterior wound. About the last of August I saw him again; he was then emaciated almost to a skeleton, and had a harassing cough, with purulent expectoration, which threatened to terminate his existence in a few days. He continued in this unpromising way for several weeks longer; the wound in the fore part of the chest healed up, but that in the back continued running. His wounds, during this period, had been dressed with yellow basilicon or cerate, and his cough palliated by demulcents. The cough left him about the first of November, but his extreme emaciation and weakness continued

From this time he began to recruit a little, and in fair weather sometimes ventured out of his apartment. We now entertained hopes of his recovery. About the first of December, the wound in his back discharged but little, and was nearly healed. He was suddenly seized with lancinating pains near the wound, and spasms of the intercostal muscles and diaphragm, which sometimes suspended his respiration for a minute or more. Our hopes now vanished, and the attendants were frequently in the act of laying him out for dead.

Dr. Coltrin and myself visited him in concert. On examining the wound in his back, I perceived an obscure fluctuation near it. Having made an incision with my lancet, a few spoonfuls of healthy pus were discharged, and relief obtained for the time. He was ordered to take twenty drops of tinct. thebaic. at night. The next day, a small spiculum of bone was taken out. The spasm and pain now left him, and he recruited again. The wound in his back healed in about ten days, and he had a second return of this affection, as alarming as the first; a similar treatment was pursued, which relieved him. On the 24th of December, he was sent to the general hospital, at Williamsville, in a convalescent state, having had no subsequent return of his paroxysm, and bidding fair to recover entirely.

Case 3.—A private, in the 9th infantry, had his radius broken about the middle, by a musket ball, which passed obliquely through the arm. He was admitted into the general hospital on the third day after the accident. The arm was then slightly tumefied and painful; only a common dressing, with splints, was applied to it. Between this time and the twenty-fifth day, frequent hemorrhages had occurred, which were commonly suppressed by a compress of square pieces of muslin, confined with a roller. The arm had become greatly tumefied, probably to three times its natural size, and a copious suppuration had followed, which relieved the inflammation and pain, but the patient's health was much impaired by diarrhœa and hectic symptoms. Opium and bark having been tried in vain, to arrest the latter, it was determined, on the thirty-fifth day after the accident, to take off his arm. I amputated it just below the insertion of the deltoid muscle. On the fourth day afterwards, I undressed it,

and was much chagrined at finding that the adhesions of the flap to the muscles had been prevented by a number of maggots finding their way through the dressing into the stump, notwithstanding every precaution had been taken to prevent such an occurrence. I cleared them out by injecting warm water and spirits of turpentine. On the fifth day, a new brood had come in, and insinuated themselves into the interstices of the muscles, producing considerable pain and irritation. The muscles had retracted, and left the bone jutting out about an inch, completely denuded of its periosteum. A very slight suppuration occurred. The patient's health became worse; for, besides an aggravation of the aforementioned symptoms, a comatose condition was present. I sawed off the protuberant extremity of the bone, cleaned the wound with warm water, and ordered the tonic and stimulating treatment to be strictly pursued. Nothing seemed to relieve him, and on the tenth day after the operation, and the forty-fifth from the reception of the injury, he died.*

Case 4.—John McGulrick, aged 45, of a dark complexion, and full habit, a private in 100th British regiment, 4th company, was wounded and taken prisoner at Chippewa, on the 5th of July, 1814. On the 7th of the same month, he was brought to the general hospital at Buffalo, with the rest of the wounded of the two armies. On examination by the superintending surgeon, the thigh was discovered to be fractured by a musket ball, about six inches above the knee joint. The limb was much swelled, and extremely painful from the bandage applied in the first dressing being stiffened with blood, and too closely rolled. He was ordered to live on light food, have the limb frequently moistened with lead water, and secured with a bandage and splints. A dressing of cerat. simp. was used.

In consequence of the great number of wounded, the surgeons and mates of the general hospital were unable to attend to all the patients, and it became necessary to employ some of the neighboring practitioners. It fell to the lot of this man to be placed under the hands of one of them, and I did not see him again till about the middle of October; I am, therefore, unable

* This case is inserted in order to show the effects of local irritation on a stump.

to say what treatment was pursued in the interim; from circumstances, however, I am induced to believe it was not of the most judicious kind. About this period, the services of the aforesaid practitioner being no longer wanted, he was discharged, and the soldier placed under the care of my assistant, Dr. Coltrin. On visiting the patient, he was struck with the peculiarity and precariousness of his situation, and was sensible that the preceding surgeon had not done his duty. The case presented such difficulty that he requested assistance.

Oct. 16th. We visited the patient in concert, and found the following symptoms: He was reduced almost to a skeleton, there being little else but skin and cellular substance on his bones; his pulse quick and feeble; a wasting diarrhœa had been on him for several weeks; he was subject to profuse sweats at night, and had no appetite. To these general symptoms was added a most unfortunate condition of the broken limb. The thigh was shortened about four inches, in consequence of the extremities of the broken bone being allowed to pass each other; the orifices, where the ball had entered and made its exit, were still open, and discharged daily a large quantity of thin semi-transparent pus; a fistula was found running nearly up to the trochanter minor, and a large ulcer had formed on the sacrum from continued lying in one position.

Weighing all these circumstances, we were not slow in pronouncing an approaching dissolution: had our opinion been otherwise, we should have determined immediately on amputation. There seemed so little chance for the patient's life, that nothing else could be done but to pursue vigorously the tonic plan; this we did, more from a sense of duty than from hopes of success. He was ordered to take Peruv. bark four or five times a day, and also a pint of port wine.

℞. Kino. gr. xv. To be taken three times a-day.

It was too late to think of restoring the limb by extension and counter-extension, as an adhesion had taken place between the bones, and an artificial joint had formed. We, therefore, only directed the limb to be dressed with basilicon twice a-day, the matter to be carefully pressed out of the sinus, and a spiral roller, with a compress on the fistula, to be applied from the

foot to the groin. The ulcer on the back was dressed also with basilicon.

This treatment was persevered in, with the addition of bitters, till the 1st of November, and with no amendment on the part of the patient; we, however, were pleased, and thought him fortunate in not dying.

The patient adhering to life with such tenacity, made us agitate the propriety of amputation, and we almost made up our minds for it, but as he was in the same precarious situation, it was thought advisable to wait a few days longer, as they would probably determine his fate, or produce an amendment.

Nov. 5th. The same treatment continued to this date; the patient no better, diarrhœa and hectic symptoms rather more urgent. As a dernier resort, we this day determined on amputation; everything was prepared, and the knife placed in the hands of Dr. ——, hospital surgeon, who, not belonging to the hospital, as a mark of attention, had been invited to perform the operation. He was dissuaded from it by Dr. ——, of the —— infantry, also a visitor, who, forming his opinion from the present condition of the patient, without taking into consideration the preceding circumstances, denounced the operation as fatal to the patient, and involving the reputation of the surgeon; advising us, at the same time, to pursue the tonic treatment. But a full trial of that had been already made. I was myself inclined to believe, that the operation might probably be fatal immediately, or in a few hours afterwards: but as I considered it the only possible means of relief, and had maturely reflected on the advantages and disadvantages likely to result, it was with reluctance that I submitted to the opinions of the consulting surgeon for the present.

Dr. Coltrin and myself having both acquired confidence from seeing the happiest issue from amputations, under circumstances similar, but not so aggravated, determined, let the event be what it might, on performing the operation by ourselves, without consulting or letting it be known to any other surgeons; we accordingly proceeded to the operation on the

10th Nov. At this time the patient's strength was completely prostrated, the diarrhœa and hectic fever still continuing in all their force; the sores on the back and thighs were no better. The

limb was amputated about two inches below the trochanter minor; the patient lost but little arterial blood, and bore the operation beyond our expectations. He was put to bed and ordered T. Opii, gtt. xl.

Nov. 11th. The patient somewhat better, rested tolerably well last night, less troubled with the diarrhœa.

℞. Pulv. Cort. Peruv. coch. min., still to be taken four times a day, and Elix. Vitriol, gtt. xv., to be added to each dose. A pint of port wine a day continued. Allowed to eat any thing he fancied, which could be procured.

Nov. 12th. Rather better, medicine continued.

Nov. 13th. The symptoms considerably ameliorated, appetite excited, had but one stool yesterday, and one last night, nocturnal sweats less profuse, rested well, medicine continued.

Nov. 14th. Mending perceptibly; the first dressing was removed from the stump; it had partially united by the first intention, and was beginning to suppurate finely. The ulcer on the sacrum throwing out healthy granulations, and diminishing in size.

Nov. 20th. The patient much in the same state as on the 14th, except that the powers of life were so feeble in the sound limb, that a dry gangrene came on the big toe, and the two adjacent toes, being probably induced by the cold state of the atmosphere.

The extremity was cold and without perceptible pulsation, from the toes to the knee. The nurse was ordered to wash it twice a day with hot brandy, and apply a flannel roller from the toes to the groin; medicine continued.

Dec. 1st. The patient's health and strength considerably improved, appetite good. The dry gangrene still continued on the toes, without any effort of nature to separate the mortified parts; the heat of the limb was restored after a few applications of the hot brandy; pulsation perceptible in the anterior tibial artery. The stump and ulcer doing well, the latter nearly healed. We now considered the patient almost out of danger. Prescription of the 11th November continued.

Dec. 20th. The patient completely exempt from apparent danger, and convalescing rapidly. He had picked up a little flesh, his appetite good, diarrhœa and hectic symptoms entirely gone; but one or two stools in the twenty-four hours; the ulcer on the sacrum

healed, and the stump nearly so. Bark, Elix. Vitr. and wine continued.

Dec. 23d. The general hospital being broken up at Buffalo, this patient was sent, with others, to Williamsville, eleven miles off; no question of his recovery was then entertained, and the only unfavourable circumstance was the gangrene on his toes, which still continued, nature showing an indisposition to separate the living from the dead parts. He arrived at his journey's end without accident. The final conclusion of this case I have to be informed of, as I left the frontier the following day.*

Gun-shot wounds having got their name originally from a superstition connected with them, that is of their being poisoned or placed under some peculiar influence from the material projecting the ball, they have been considered as forming a class to themselves, and a special treatment was introduced, now to a great extent abandoned. If the term itself were laid aside, and we had a class of wounds called Projectile, surgical phraseology would be improved by accommodating it to the sentiments now generally entertained. The mere instrument of projection in its own nature has no influence, further than its special force, upon the body projected. At the present day, when steam is so much employed in navigation and in machinery; from the frequency of accidents from its explosion, we might, upon the principle of the nomenclature adopted, have a class of steam-shot wounds, and formerly there could have been one of balister-shot wounds. It is probably the more requisite to have a reformed nomenclature in the present day, because really great modifications have been introduced into the manner of inflicting wounds. The injury from musket balls formerly occupied almost exclusively the mind. Now artillery is so much used in combat, that its grape and its cannister shot figure largely. The projection of hollow balls calculated to explode at certain points, and by their fragments produce destruction, has also advanced much in use. And lastly, the modes of injury connected with the industrial pursuits of society, (as the disrupture of

* The amputated part of the os femoris is now in the Wistar Museum, and presents a striking example of the effort at union by callus thrown out laterally.

machinery, and the tearing and crushing of railroad cars,) stand much in the category of projectile wounds, though not exactly according to our pre-conceived idea of them. The whole of the preceding category belong in their phenomena to wounds resulting from laceration and contusion blended together. The entire train may indeed be said to commence with the buckshot used in the American service, and to end in the explosion of the radiating fragments of a bomb shell, or in the most extreme form of railroad accidents. The injury from the first is very insignificant, unless it touch a vital part, as the brain or a large vessel ; while the injury from the two last, though falling upon parts easily spared from the system, yet come with such destructive violence, that the system is unable to rally from it, and hence death is most lamentably frequent, without our being able to point out any very intelligible cause. We call it, however, a *shock* to the system.

If it were in preceding times difficult to give a formula, which represented universally the progress of wounds from projectiles, (gun-shot,) and the exact mode of treatment, that difficulty it is seen by the above is much augmented, at the present day. The enquiry has therefore to be made conformably, and resolves itself as follows :

The circumstances of force and resistance, being the same in both instances, what are the phenomena attending the entry and exit, or lodgement of spherical shot or bodies, connected with the material forming the latter? What of angular bodies, made so by design or by explosion?

How is their passage modified by the various degrees and angles of resistance?

What are the most appropriate dressings in each case?

What are the different constitutional effects?

What are requisitions for amputation, and at what time after the injury should it be performed? This is perhaps the most important and pressing question of modern surgery; from the revolution, I say, which has taken place in the projectiles of modern warfare, and in the use of transporting and of manufacturing steam machinery. Its paramount interest is seen every day. Formerly a stump, either in arm or in leg, was one of the rarest of sights in our streets, and was sure to obtain attention from its infrequency; now it is so

common that we do not think of it in passing. A death after an amputation was formerly scarcely looked for except from the general condition of the patient at the time; now it is one of frequent occurrence. The question, therefore, has been most forcibly elicited, what are we to do with limbs extensively crushed and lacerated? Are they to be cut off before re-action—are they to be cut off upon re-action—are they to be left as we find them, and to await the sanative process of nature, which will cause to slough off a part whose life can no longer be retained? Or are we, in case of restoration being hopeless, to make a simple muscular resection of the part, at the poin which is the most disjointed from the rest, and to leave the resection of the bone and its squaring off, for a future time? It is impossible for any one man to find in his own experience a solution for al these questions, but a collective attention of the profession from all quarters of the world, in making a simple report of each case, would enable us to see whether the existing rule of speedy amputation is to be observed; or whether a new state of things, by its greater frequency of occurrence, may not invite to another rule of practice, by affording a higher and a more discriminating experience.

In hopes of eliciting from other quarters their own experience, and by that means obtaining a total revision of the ground of surgery in its relation to wounds inflicted by projectiles, I shall now proceed to present my own observations and conclusions.

In regard to the lighter conditions of projectile wounds, the following phenomena and proceedings may be stated:

When a wound is first inflicted, say by a musket ball, because it is the most frequent cause of injury, a round hole is made, into which the surgeon can easily introduce his finger: in twelve or twenty-four hours an inflammation and tumefaction take place in the walls, or circumference of the wound, which close it up so completely, that a small probe cannot be introduced without force, and without giving a pain to the patient. I mention this latter, because theoretical writers on the subject talk of introducing their bullet forceps, and extracting a ball with the same facility as they would extract a ball from a large auger hole.

I saw at the period in question a pair of bullet forceps, from an instrument maker, for the army, who, no doubt, acted up to this

idea, nearly as large and long as a pair of small fire tongs, and which no experienced surgeon would ever think of employing on the living body. In a vast majority of cases, no instrument larger than the common dressing forceps could be used in extracting a ball: they answered every purpose to which instruments of this kind could be applied. They are long enough, and if any objection to them can be found, on trial, it will be invariably as to their bulk, which might, with great advantage, be diminished for this purpose. When I first began to dress gun-shot wounds, and extract balls, I laid hold of the common bullet forceps, and attempted to introduce them into the wound, in which I seldom succeeded, for two reasons; the first was, because it was impossible to do so, without dilating the wound with a scalpel; and the second, because few patients will allow the excessive aggravation of pain which their unwieldly size occasions. After unavailing efforts with them, till my own patience, and that of the patient, was exhausted, I commonly finished the business with the dressing forceps.

If any person will take the trouble to compare a pair of bullet forceps, of that period, with the bullets used in our service, he will find that the diameter of the extremity of the forceps is nearly equal to the diameter of the ball; so that, admitting it practicable to insert the forceps into the wound, and to pass them along its channel till the point reaches the ball, it will then be necessary to stretch the wound to twice its diameter before the blades of the forceps can be passed over the ball, and include it in their grasp; after which the whole length of the wound is to be stretched in the same manner, in extracting the ball, and that to the very great misery of the patient. The common dressing forceps are objectionable on this account, but less so than the others, because their points are tapering and thin, and, therefore, occupy less room; and as regards firmness of grasp, it is sufficient to extract a ball out of any soft part in the human frame.

To return to the progressive condition of wounds: the tumefaction and inflammation, of which I have before spoken, generally continue, with little variation, till the fourth or fifth day; from that time a secretion of pus takes place from the walls of the wound, which continues to increase for several days, and sometimes it becomes very profuse. This secretion of pus cleanses the wound, and

terminates the inflammation and tumefaction, commonly about the tenth or twelfth day. It is at this period that it is practicable to extract the ball, and pieces of clothing, which may not have been attended to at the first dressing; the wound has now a gaping orifice, and the dressing forceps may be introduced. If it be delayed much after this time, granulations rise up and close the orifice. We can then only trust to nature for expelling those foreign bodies, and it is seldom that she does not, sooner or later, bring them to the surface.

Major General Brown presented an instance of the injurious effects of portions of clothing remaining in wounds. At Bridgewater a musket ball entered somewhat in front of the trochanter major and passed out over the inguinal glands. He suffered for three weeks from inflammation and suppuration; became better, and leaving the southern shore of Lake Erie, was accommodated in an armed schooner off the Fort. He then relapsed, with great irritation and discharge of matter, which continued until a piece of woollen pantaloons carried in by the ball, was discharged. The wound then soon healed, he resumed the immediate command of the troops, and consummated his military reputation by directing the sortie of Sept. 19th.

Not an unusual point of discussion, is the comparative size of the place of entrance and of departure of a ball. It will be impossible to find a rule on this subject because the proposition is variable. If a ball pass through a part with a velocity not materially impaired, the hole for its exit will be the larger from its imperfect support in being made, but it will be found generally that the point of exit is a simple laceration, the edges of which come almost or exactly together. Cases of this kind are met with when the ball is so far expended in force that it does not penetrate the clothing a second time, but is caught by it and drops down into the boot or shoe.

The sloughing of wounds is described by many writers in such a manner as to produce the belief that the parts injured by the ball are separated from the living parts, and come out, in pretty much the same way as the lining would from the sleeve of a coat. I never saw this, or any thing like it; if a sloughing does take place, it is insensible, and so dissolved in pus, that nothing of it can be seen. Occasionally parts of the fascia and of the cellular substance are detached, but there is nothing like muscular flesh.

I should myself be more disposed to describe the process as a deliquescence of the contused parts, than a regular sloughing.

From the tenth or twelfth day, the secretion of pus gradually diminishes, granulations arise quickly, and the cicatrix commences from the circumference of the wound, contracts and advances to the centre; when it has nearly closed up, the further progress of the cicatrix is frequently checked, and it remains stationary for some time, in consequence of a small button-like fungus, which shoots up considerably above the surface of the wound. If this fungus is touched once or twice with lunar caustic, it disappears, and the wound is completely healed, generally between the 20th and 30th day. Gun-shot wounds seldom bleed much at first, or indeed at any period of their course.

I often had my fears excited by the accounts of secondary hemorrhage, proceeding from the sloughing process involving the large trunks of arteries. It is true, this event does take place sometimes, but I think it one of comparatively rare occurrence.

The discharge from a gun-shot wound is, for several days, of the most fetid and intolerable kind, and while the deadened flesh is coming away, this discharge is of a black color, mixed with yellow; it soils, very much, the dressings, and they cannot be washed clean without a great amount of labor. Owing to this we could scarcely keep a bandage in use for more than one dressing. But the expense of this profusion was very serious, from the scarcity of woven fabrics and the high price of cotton which had to be transported inland on wagons from South to North, in consequence of the strict blockade of the sea-coast. The existence of war precluded the introduction of supplies from abroad, through our sea-ports.

(To be continued.)

Experimental Researches applied to Physiology and Pathology.

By E. Brown-Séquard, M. D., of Paris.

(Continued.)

XXI.—On muscular irritability in paralyzed limbs, and its semeiological value.

Marshall Hall has published many papers, in which he has tried to prove that the degree of muscular irritability in paralyzed parts may be used as a means of diagnosis between *cerebral* and *spinal* paralysis.

He calls *cerebral* paralysis that in which the paralyzed part is deprived of the action of the brain, but not entirely, or not in the least, of the influence of the spinal cord. On the contrary, he calls *spinal* paralysis that in which the palsied part is altogether deprived of the action of both the brain and the spinal marrow. The cause of the cerebral paralysis may be seated either in the encephalon or the spinal cord; and the cause of the spinal paralysis may be seated either in the spinal cord or in the nerves.

In the same individual these two kinds of paralysis may exist together. Suppose a man in whom the brachial enlargement of the spinal cord is considerably softened, and consequently unable to act; the upper limbs then have a spinal paralysis, and the lower limbs, receiving their nerves from a healthy part of the spinal cord, have only a cerebral paralysis.

According to Marshall Hall, the cerebral paralysis is attended by augmented muscular irritability, and the spinal paralysis is attended by diminished irritability. He bases this opinion on the following experiments, and on some clinical observations.

On six frogs he divided the spinal marrow immediately below the origin of the brachial nerves; and he removed a portion of the ischiatic nerve of the right posterior extremity. He had immediately, or more remotely, the following interesting phenomena:

1st. The anterior extremities alone were moved spontaneously; both posterior extremities remaining entirely motionless when the animal, placed on its back, made ineffectual efforts to turn on the abdomen.

2d. Although perfectly paralytic in regard to spontaneous motion, the left posterior extremity, that still in connexion with the spinal marrow, moved very energetically when stimulated by pinching the toes with the forceps.

3d. The right posterior extremity, or that of which the ischiatic nerve was divided, was entirely paralytic, both in reference to spontaneous and excited motions.

4th. After the lapse of several weeks, whilst the muscular irritability of the left posterior extremity was gradually augmented, that of the right was gradually diminished,—phenomena observed when the animal was placed in water through which a slight galvanic shock was passed accurately in the direction of the mesial plane.

5th. Strychnine being now administered, the anterior extremities and the left posterior extremity, or that still in connexion with the spinal marrow, became affected with tetanus; but the right posterior extremity, or that severed from all nervous connexion with the spinal marrow, remained perfectly placid.

6th. Lastly, the difference in the degree of irritability in the muscular fibre of the two limbs was observed, when these were entirely separated from the rest of the animal.

After this exposition of the results of his experiments, Marshall Hall adds: "In a word, the muscles of the limb paralyzed by its separation from both cerebrum and spinal marrow, had lost their irritability; whilst those of the limb separated from its connexion with the cerebrum only, but left in connexion with the spinal marrow, not only retained their irritability, but probably possessed it in an augmented degree.*

It is easy to prove that Marshall Hall has been completely misled by his experiments.

It is well known that the more a muscle is excited, the more it contracts. As the degree of irritability is judged by the degree of the contraction, it follows that to know what is the degree of muscular irritability we ought to apply the same excitation to the muscles we desire to compare. In his experiments with galvanism and with strychnine, Marshall Hall has not done so. He has applied galvanism, so as to excite much more the muscles of the left side united with the spinal cord, than those of the right side.

The muscles of the left side were excited:

1st. Directly by the galvanic current.

2d. In consequence of the excitation of the motor nerves.

3d. In consequence of the excitation of the spinal cord, directly by the galvanic current, and secondarily in consequence of the excitation of the sensitive nerves.

So that the muscles on that side were moved not only by the direct excitation on them, but also by a reflex action, and in consequence of the direct excitation of the spinal cord.

As to the muscles of the right side, they were only excited by the small part of the galvanic current passing in them. During the

* On the diseases and derangements of the nervous system. 1841, p. 215.

first, and perhaps the second and the third week after the section of the ischiatic nerve, the muscles were also slightly excited by the motor fibres of that nerve, but after that time these fibres had lost their vital property, and were unable to excite a contraction in muscles.

From this analysis it results clearly that the mode of comparison of the two limbs, by the passage of a galvanic current, as it has been employed by Marshall Hall, could not decide in which side the muscles were more irritable.

The use of strychnine, also, could decide nothing in this question, because, as I have proved in a former article, this poison is not able to act upon muscles. It acts only on the nervous centres, and especially on the spinal cord. Therefore, the production of tetanus in one limb and not in the other, in the experiment of Marshall Hall, proves nothing at all as to the degree of muscular irritability.

To know what is that degree, it is necessary to separate the two limbs from the trunk, and then to excite directly the muscles. Marshall Hall has made this experiment, but he says nothing about the circumstances under which it was performed, and these circumstances were, as it will be shown, extremely important.

In my experiments, instead of dividing only the ischiatic nerve, I divided the four nerves going to one of the posterior limbs, of many frogs, in whom the spinal cord was divided immediately behind the roots of the brachial nerves.

I have found on the separated limbs of these frogs :

1st. That, at first, the muscular irritability was greater in the limb which had been deprived of the action of the spinal cord and of the brain, than in the limb deprived only of the action of the brain.

2d. That, at a variable time after the operation, the irritability was at the same degree in the two limbs.

3d. That, at last, the irritability became greater in the limb only deprived of the action of the brain, than in the other.*

* There is, in these experiments, a cause of error, arising from the existence on one side, and the absence, or, at least, a diminution in the other, of the vital power of the motor nerves; but the difference is trifling when the nerves are divided very near their entrance in the muscles.

The differences in the degree of irritability have been observed: 1st. By the degree of the contraction under the influence of the same excitation; 2d. By the duration of irritability.

I have found that during a time, varying much according to seasons, and to many other circumstances, the muscular irritability increases in the two posterior limbs in a frog operated upon as I have described, and that the increase was more considerable in the limb where the nerves were divided than in the other.

If we compare two frogs, one operated on as before, and another having only had a division of all the nerves on one of the posterior limbs, we find, a few days after the operation, that in the four limbs separated from the body there are great differences as to the degree and the duration of muscular irritability: 1st. The three paralized limbs have a greater irritability than the one not at all paralyzed. From the three paralyzed limbs the two in which the nerves have been divided have both the same degree of irritability, and more than the limb in which there was only what Marshall Hall calls a cerebral paralysis. 2d. The irritability has lasted longer in the two limbs in which the nerves had been cut, than in the two other limbs; and from these two, that in which there was a cerebral paralysis has remained longer irritable.

If we examine the irritability in the posterior limbs of two frogs, operated on as aforesaid, for ten, twelve, or fifteen days, then we find that it is nearly at the same degree in the three paralyzed limbs, and greater there than in the non-paralyzed limb.

If the comparison is made four or five weeks after the operation, then the non-paralyzed limb has a greater irritability than the three paralyzed, and, from these three, the one deprived only of the cerebral action has a greater irritability than the two others.

The same experiments made on other animals than frogs, i. e. on guinea-pigs and rabbits, have given like results. I shall publish the details of these last experiments in a special paper, in which I intend to examine the value of the clinical observations of Marshall Hall, R. B. Todd, Duchenne de Boulogne, and others. I will merely state here, that in many cases it is almost impossible to know what is the difference in the degree of mus-

cular irritability in a paralyzed limb, compared with a healthy limb, in a living man or animal. Galvanism and strychnine cannot give us any exact notion in this respect. I ought to add, that if we could know what is the relative degree of irritability in a paralyzed limb, we could not make use of that knowledge for the diagnosis of the seat of the alteration producing the paralysis. On the other side, we do not want to know what is the degree of irritability in order to establish such a diagnosis. It will be, almost constantly, easy to know whether a paralysis is a cerebral or a spinal one. The existence of reflex actions in the paralyzed parts, is sufficient to prove that there is a cerebral paralysis, and the absence or the slight degree of these actions will prove that there is a spinal paralysis.

The following conclusions may be drawn from the facts above related, and from others that I have not yet published.

1st. The degree of muscular irritability in paralyzed parts, becomes rapidly greater than in the healthy parts, but, after a variable length of time, it diminishes, and, as it is well known, it may disappear.

2d. The muscles deprived of the action of both the brain and the spinal marrow, become rapidly more irritable than the muscles deprived only of the action of the brain, but, after a certain time, there is also in them a more rapid diminution of irritability than in the others.

3d. It appears certain that the muscular irritability never disappears completely in parts deprived only of the cerebral action.*

4th. In certain cases of paralysis, and more particularly of the face, as after the removal of a large part of the facial nerve, the muscular irritability may exist for years, at least in rabbits and other animals.

5th. It is very difficult, and sometimes almost impossible, to know the relative degree of muscular irritability in healthy parts

* I have had a pigeon on which nearly an inch of the costal part of the spinal cord had been removed, and on which the muscular irritability in the posterior limbs, and a very great reflex power, have existed as long as I have taken care of it, *i. e.* more than twenty-seven months. I ought to say that there has been no re-union of the separated parts of the spinal cord.

compared with paralyzed parts, and such a knowledge could not be of a great semeiological value.

6th. The existence or the absence of reflex actions as a means of diagnosis between the cerebral and the spinal paralysis, has a much greater value than the degree of muscular irritability.

(To be continued.)

Defence of the Doctrine of Vital Affinity against the objections stated to it by HUMBOLDT *and* Dr. DAUBENY. By Dr. ALISON. Communication for the "Examiner" by S. A. LEWIS, M. D., Philadelphia.

The object of this paper was to fix attention on the great physiological discovery which has been gradually effected during the present century, of the mode in which certain of the elements contained in the earth's atmosphere, under the influence of light, and of a certain temperature, are continually employed in maintaining that great vital circulation, of which vegetable structure, animal structures, the air and the soil, are the successive links; and to point out that the most essential and fundamental of the changes here effected—particularly the formation of the different organic compounds in the cells of vegetables—are strictly *chemical changes*, at least as clearly distinct from any chemical actions yet known to take place in inorganic matters, as the vital contractions of muscles are distinct from any merely mechanical causes of motion; and justifying the statement of Dr. Daubeny that there appears to be a "power, residing in living matter," and producing chemical effects, in fact manifesting itself most unequivocally by the chemical changes which result from it, "distinct, at least in its effects, from ordinary chemical and physical forces."

But after having made this statement, Dr. Daubeny, according to the author of this paper, has thrown a degree of mystery over the subject which is quite unnecessary and even unphilosophical, by refusing to admit, and quoting Humboldt, who has changed his opinion upon the subject, and now likewise declines to admit that these changes are to be regarded as *vital*; both authors (as well as several other recent English authors) maintaining that as

we do not know all the conditions under which ordinary chemical affinities act in living bodies, we are not entitled to assert that these affinities may not yet be found adequate to the production of the chemical changes which living bodies present; and that until this *negative proposition* is proved, it is unphilosophical and delusive to suppose the existence of any such power as that to which the term vital affinity has been applied by the author of this paper and several other physiologists.

In answer to this, it is here stated, that as we cannot, strictly speaking, *define* life or vitality, we follow the strict rules of philosophy, in *describing* what we call living bodies, whether vegetable or animal, and then applying the term vital or living, as the general expression for everything which is observed to take place only in them, and which is inexplicable by the physical laws, deduced from the observation of the other phenomena of nature; that according to this, the only definition of which the term vital admits, or by which the objects of Physiology can be defined, Dr. Daubeny has already admitted, in the expressions above quoted from him, that chemical as well as mechanical changes in living bodies fall under the denomination *vital;* and that as the rule of sound logic is "affirmantibus incumbit probatio," and as it is just as probable *à priori*, that with a view to the great objects of the introduction of living beings upon the earth, the laws of chemistry, as those of mechanics, should be modified or suspended by Almighty Power, this author maintains that we are as fully justified in referring all great essential chemical phenomena which are peculiar to living bodies, to peculiar affinities which we term vital, as Haller was to ascribe the peculiar mechanical movements of living bodies to the vital property of irritation; and to throw on the mechanical physiologists of his day the burden of proving, if they could, that the laws of motion perceived in dead matter were adequate to explain them.

In illustration of the importance, both in Physiology and Pathology, of this principle being held to be established, Dr. Alison adduced two examples, *first*, the utter failure of the very ingenious theory of Dr. Murray to explain, on ordinary chemical principles, the simplest and most essential phenomena of healthy secretion; and, *secondly*, the now generally admitted inadequacy of any theory of inflammation, which does not regard a modification of the *affinities* peculiar to life, and here termed vital, as

the primary and essential change, in the matter concerned in that process.*

Dr. Alison's paper may be seen *in extenso*, in the Edinburgh Ph. Trans. 1851–52.

Delirium Tremens Successfully treated by Chloroform. By JONATHAN LETHERMAN, M. D., Assistant Surgeon, U. S. Army.

Francis Harvey, a Hollander by birth, is now, and for a long period has been, in the service of the United States; is forty-two years of age, weight one hundred and eighty pounds, is five feet seven and one-fourth inches in height, and measures thirty-eight inches around the chest.

This person had been absent from his Post for a few days in December, 1851, during which time he drank a large quantity of alcoholic liquors. This indulgence induced a severe attack of dysentery, which continued for five days after he reported sick on the 26th of December, and then entirely ceased.

Upon the subsidence of this disease he was seized with well marked symptoms of delirium tremens. The day following his recovery he was perfectly sane. During the previous night, however, he was slightly wandering in his mind, yet not to such a degree as to require sending for me. But during the night of January 1st, 1852, I was called up to see him, and, upon visiting the Hospital, found him trembling violently, having a great dread of injury, and a sensation as if a serpent were in his head and breast. He was fearful of every one who came nigh him, but when informed who I was his fear of me much abated. His pulse was frequent and weak, his eyes infected with contracted pupils, and his countenance exhibiting a vacant stare. A large dose of tincture of opium was ordered. The following morning, finding him nothing improved, I directed porter and laudanum at intervals throughout the day, and also the compound infusion of Cinchona.

During the week ending January 9th, this treatment was continued, except, that finding the failure of opium and stimulants in combination, these articles were ofttimes given separately,

* Jamieson, Edinburgh N. P. Journal, October, 1852.

attention being given to the diet, which was generous, and to the organs of digestion. The patient, during this period, occasionally experienced a slight sleep, or, more properly, a stupor, after having taken a large opiate and stimulants, but it was so slight as to be of no service and totally unrefreshing. The trembling and fear of injury disappeared, but he was constantly annoyed by the idea (of the truth of which he seemed fully impressed) of animals in his head and breast, now of large beasts, now of serpents. Notwithstanding the subsidence of some of the symptoms, the patient at this time was no better. The tongue was coated and the pulse frequent and weak. Blue pill was directed, and Brandy ℥ij., Tinc. opii. gtt. 60, aq. ℥ij. was ordered every fifteen minutes until the patient should begin to experience sleep. This latter prescription was continued for seventeen hours, and although he was somewhat more tranquil, he yet had no sleep, and I could not pronounce him better. On January 10th the principal symptoms persisted, and I directed Brandy ℥ij., Tinc. opii. ʒij., aq. ℥ij. to be given every half hour until he should exhibit indications of sleeping. This was administered during the day, but produced not the desired effect. In other cases I had used opiates and stimulants in combination and with success.

From the 10th until the 16th of the month, the unpleasant symptoms would somewhat abate after the administration of large doses of laudanum, but, upon the withdrawal of the drug, or the diminution of the dose, he would relapse into his former condition. As yet he had no refreshing sleep. On the 16th, Porter ℥ij., Tinc. opii. ʒij., Chloroform gtt. xx. were directed every hour, to be discontinued should any indications of sleep appear. The day following he was a little better, but had not slept. The directions of the 16th were enforced, the laudanum excepted. On the 1st of February the patient had slightly improved, but yet had slept none. Whilst taking chloroform he was a little better, yet not sufficiently so to be satisfactory; had wandering pains in his head and breast. Ordered chloroform ʒi. in two ounces of water every 4th hour, porter ℥iij. every 2d hour. After the administration of the chloroform the pain in the head was relieved, the whole system rendered quiet and composed, and, for the first time during a period of five weeks, the patient slept well throughout the night. Very shortly after the first dose of

chloroform was given emesis occurred, but a sinapism to the epigastrium relieved all disposition to vomit, and it happened no more.

Under this treatment the patient rapidly improved, and excepting an attack of intermittent fever, a disease which is rife in this country, nothing intervened to retard his recovery. On the 25th of February he was considered able to undergo the exposures incident to frontier service, and was consequently reported for duty.

He continued well until the first of March, when his desire for liquors, which at that time was uncontrollable, again led him astray. He was reported sick to me on the evening of March 3d, and I found him affected with delirium tremens, having the "feeling as if the devil were in his head," and headache. Directed three cups to nucha, and one drachm of chloroform, and left, with orders to be called should any untoward symptoms appear during the night. He felt much relieved after the application of the cups, and slept through the night. The succeeding morning he complained of his head, had a slight fever, no appetite, and a coated tongue; notwithstanding, he was better. Directed Tincture of Valerian half a drachm every 4th hour, and a drachm of Chloroform every 4th hour, commencing two hours after the Tinc. Valerian. The morning following the patient was perfectly sensible; bowels regular, appetite good, and had slept well throughout the night. The Tinc. Valerian was omitted and chloroform alone given in gradually diminishing doses until the 7th of that month, when he ceased to take any medicine, and was again returned to duty on the 15th. On the 21st he left the Post with his company and marched forty-seven miles to a station farther in the interior of the State.

This man has been in the habit, for some years, of occasionally indulging to excess in alcoholic liquors, and had he not been endowed with a vigorous constitution, would doubtless have long since paid the penalty of such excesses. His case interested me much by reason of its severity, its long duration, and the total failure of opiates and varied stimulants, administered separately and in combination, in affording relief. The failure of the preparations of opium was not to be attributed to a want of being given in quantities sufficiently large, for they were administered,

not by the ordinary doses, but regulated according to their effects as much as possible.

The quantity of chloroform first exhibited was too small. At that time, and for some time afterwards, I was not aware that it had ever had been given in this disease, and was induced to direct it from the effects I had noticed in other diseases. It then failed in procuring sleep, yet it caused a perceptible improvement, and I then took into serious consideration the propriety of largely increasing the dose, and the probable effects thereof. At that juncture, I received the American Journal of Medical Sciences for the 4th quarter of 1851, wherein I was much pleased to see the record of a case in which it had been administered with profit in larger doses. I had no longer any lingering doubts, and gave it in such doses, and the result was gratifying in the extreme.

That it was the remedial in this case can scarcely be doubted, and should any doubts exist as to its efficacy iu the first attack, its influence in the second can hardly be questioned. The minor details of treatment have not been given, as the object has been to contribute additional testimony to the value of chloroform in this disease, in controlling which it has acted so speedily and so well.

Attention was given to the different organs of the body, and remedies from time to time were administered to keep them, so far as possible, in a healthy condition.

This man is now in the enjoyment of robust health, and has been so for many months.

Since I treated this case, I have used this drug in several cases of this disease, and, with one exception, it answered my expectations fully. It has brought relief, when opiates, instead of diminishing, added to the evil influences of the disease.

Fort Meade, Florida, Dec. 1st, 1852.

Speculations on the Nature of Tubercular Consumption. By DINWIDDIE B. PHILLIPS, M. D., Assistant Surgeon, U. S. N., Member of Acad. of N. S., Philad.

If in offering for publication the following speculations regarding the nature of Phthisis Pulmonalis, the writer is sufficiently fortunate to engage the attention and invite the aid of abler minds to the investigation of the subject, he will be duly repaid for the time devoted to its examination.

He does not pretend that he has undoubtedly discovered the true pathology of this disease, or an infallible and ever-present cure; but having been induced to adopt his opinions, from what to him seems a preponderance of evidence in their favor, he offers them to the members of the medical profession, to be by them received or rejected, as their wisdom may dictate.

The most which we can learn in relation to the pathology of Phthisis, as treated of by the multitude of medical writers, amounts to but little more than a candid confession of ignorance upon the subject. We are told that it is the result of an abnormal and morbid state of nutrition; that its cause and nature are alike unknown. And when we review the various and conflicting plans recommended for its treatment, and behold the almost innumerable host of heterogenous medical compounds which have been from time to time lauded as the great elixirs of life to the suffering patient, it would seem that any systematic attempt to investigate the nature of the disease, and philosophically oppose its invasions even, although visionary and erroneous, is at least preferable to an entirely lethargic and empirical guesswork, and should therefore claim an indulgent and charitable consideration.

Mr. John Simon, in his work entitled "General Pathology," gives the following description of tubercle:

"Microscopical examination of tubercle shows the following principal ingredients: 1st, a substance which constitutes distinctively the bulk of the gray granulations, and which in its general character is *identical with the matter of condensed fibrinous concretion*; namely, a dense, transparent, and almost homogeneous stroma, soluble in acetic acid and in the alkalies; 2d, granular material often in overwhelming abundance, especially in the

not by the ordinary doses, but regulated according to their effects as much as possible.

The quantity of chloroform first exhibited was too small. At that time, and for some time afterwards, I was not aware that it had ever had been given in this disease, and was induced to direct it from the effects I had noticed in other diseases. It then failed in procuring sleep, yet it caused a perceptible improvement, and I then took into serious consideration the propriety of largely increasing the dose, and the probable effects thereof. At that juncture, I received the American Journal of Medical Sciences for the 4th quarter of 1851, wherein I was much pleased to see the record of a case in which it had been administered with profit in larger doses. I had no longer any lingering doubts, and gave it in such doses, and the result was gratifying in the extreme.

That it was the remedial in this case can scarcely be doubted, and should any doubts exist as to its efficacy iu the first attack, its influence in the second can hardly be questioned. The minor details of treatment have not been given, as the object has been to contribute additional testimony to the value of chloroform in this disease, in controlling which it has acted so speedily and so well.

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yellow tubercle, (where it is superadded to the former constituent) and consisting partly of fibriniform granules, partly molecular oil; 3d, aborted cytoblasts, dark, condensed, mis-shapen, angular, insoluble in acetic acid."

May we not assume, that the sum and substance of the tuberculous condition consists in a precipitation of unduly oxygenated fibrinous elements from the blood, from immediately exciting causes?

Let us see what arguments or facts can be adduced to sustain such an opinion. Mr. Simon, in treating of Cyanosis, uses the following language:

"There is one signal peculiarity which attends this chronic venous condition of the blood, and which I must not leave unmentioned. Not only in extreme cases of Cyanosis, but in all chronic diseases, where, from any causes whatever, there is defective arterialization of the blood, the patient enjoys one privilege. He is exempt (perhaps absolutely, but, at least, *all but absolutely* exempt) from tubercular diseases. And as the circumstances which interfere with due arterialization of the blood are of the most various kinds (some of them acting merely mechanically,) so we are justified in inferring from the exemption just specified, that the condition of the system in which tubercle is deposited is incompatible with venosity of the blood."

Now, there is one peculiarity of venous blood which alone can account for the singular fact stated above. Venous blood is much less prone than arterial to deposit its fibrin. This fact is demonstrated by post-mortem examinations; which always, (or nearly always,) exhibit fibrinous concretions or deposits in the arteries and left side of the heart, whilst the veins and right side are free from them. Mr. Simon also proves the difference in the facility with which arteries and veins give up this element of their composition. He says, (in the work before alluded to,) "I have carried a single thread by means of a very fine needle, transversely through the artery and vein of a dog, leaving it there so that it might cut the stream, and I have done this repeatedly, sometimes in the femoral vessels, sometimes with the carotid and jugular, sometimes with the aorta and cava. I have suffered the thread to remain during a period of from twelve to twenty four-hours. My experiments have given me, as a uniform result, that the arte-

rial blood, with the utmost readiness, deposits its fibrin on the thread; the venous blood with the utmost reluctancy."

Thus, then, the only condition in which the system seems perfectly exempt from the tuberculous deposit, is that in which, from want of proper arterialization, or oxydation, the blood refuses to part with its fibrin, or else does so with greatest difficulty. Again, in noticing the favorite locality of tubercle, we find it originally commencing on the lungs; here the blood is necessarily more highly oxygenated than in any other portion of the body, and here per consequence, its first attack is made; and not only in the lungs, but, by preference, in the superior lobes of the lungs. This arises from the fact that, as a general rule, the upper part of the chest is less frequently exercised than the lower, and the circulation in that particular portion, becoming languid and stagnated, as a matter of course fibrin is there first effused. Comparatively speaking, consumption rarely attacks individuals whose occupations cause them to make free use of the muscles of the upper part of the thorax, whereas, it is of common occurrence with those who pursue sedentary occupations, and whose respiration is carried on chiefly by the diaphragm.

It was formerly charged that tight lacing was a prolific cause of tubercle in females. Dr. J. M. Allen, (Professor of Anatomy in Pennsylvania College of Medicine,) has informed the writer, that he has frequently examined cases where this evil habit had been carried to very great excess; and that although the subjects, previous to death, presented every appearance of a scrofulous diathesis, yet, to his astonishment, instead of finding the lungs filled with tubercle, he has universally found them sound and healthy. He accounts for this upon the principle, that the stricture upon the diaphragmatic portion of the chest, produced a necessarily increased action of the muscles upon the upper portion, and that through this means, the circulation there was rendered more active, and tubercle warded off.

It is hoped that no one will infer that the pernicious and abominable practice of tight lacing is for one moment advocated; far from it, but, as it sometimes happens, that one evil may point out a remedy for another, so in this instance, we are taught that one of the best prophylactics against anticipated consump-

tion consists in moderate, but frequent, exercise of the arms and superior portion of the chest.

Formerly, fibrin was thought to constitute the great pabulum from which the healthy tissues of the body were nourished and repaired; now, however, it is generally conceded to be a retrograde condition of albumen, and of but little use in the economy. To those who still maintain the former opinion, a theory of the kind here advocated will probably appear idle and unsatisfactory, but to others, the views herein presented—defective and imperfect as they are—may, at least, seem to claim some shadow of plausibility.

In speaking of the treatment of Phthisis, it is proposed only to hazard a few conjectures upon the influence of some of the most prominent remedies which have been, and are still, recommended. One of the most favored, and probably most effectual, remedies in use is the Oleum Morrhuæ. This probably acts by furnishing fatty matter to unite with the oxygen of the blood in the generation of animal heat, and thus neutralize any excess; preventing an undue accumulation of super-oxygenated fibrin, and preventing a consumption of muscular and nervous tissue; the iodine and bromine contained in it also acting beneficially, by promoting, softening and absorption of any concretions already formed. The iodide of potassium and nitrate of potassa, with the other alkalies administered, may also do good by rendering the fibrin of the blood more soluble, and less liable to precipitation and coagulation; but in order to produce this effect they should be given in large doses, so that some portion of them may be retained in the circulation, otherwise, they will soon be eliminated and carried off by the kidneys, without exerting any salutary influence. Nutritious and unirritating food, by building up the general system, serve also to lessen the quantity and improve in quality the fibrinous elements of the circulation, and by contributing tone and strength to the economy enable it for a longer time to withstand noxious influences of any and every kind. Removal to a warm climate may act in two ways: 1st, by creating revulsion of excitation from the lungs to the liver; next, by affording less oxygen than would be contained in an equal volume of air respired in a colder atmosphere.

Exercise, as a prophylactic, has been before mentioned; it is

also highly efficacious as a remedial agent. It should be of such kind as to call into action the muscles of the superior portion of the thorax and, in fact, all that are in anywise, directly or indirectly, concerned in respiration; and its beneficial influence is much enhanced by making it of such a nature as to be agreeable and pleasant instead of forced and obligatory. Riding on horseback has been most highly extolled by many, its action being probably due to the partial fulfilment of the above recommendation, by using the hands, arms, and shoulders, in the government of the animal, with the veins, and also by improving digestion and increasing the general strength. Cases are on record, where persons, who despairing escape from so hopeless a malady, and perfectly reckless of consequences, have engaged in pursuits of the roughest, and apparently, most injurious nature, and who, after travelling on horseback or on foot, and performing real manual labor, have, to the joyful surprise of their friends, entirely recovered from their dangerous condition, and become both strong and hearty. Sailors, soldiers and others, engaged in occupations of similar physical necessities, although much subject to inflammatory affections of the chest, are in general less prone to tubercle than those whose condition in life would apparently better protect them from its ravages.

There are many remedies prescribed and used of a palliative nature, but it is scarcely necessary to mention them in an article of this kind; the limits of the treatise and time for its preparation, both forbid a more extended examination of the subject. The ideas here advanced have been hastily (perhaps too hastily) prepared and presented; but should they induce investigation, or cast any light, however small, upon a disease as obscure in its nature, as dangerous and fatal in its consequences, the highest hopes of the writer will be more than realized.

CLINICAL REPORTS.

Pennsylvania College, Ninth below Locust street. Service of Professor GILBERT.

Reported by W. H. GOBRECHT, M. D.

Nov. 20th. CASE XXXVIII.—*Congenital Teleangiectasy. Remarks, History of Case and Operation.*—This is an unnatural expansion in the capillary vascular system, producing, sooner or later, swellings which have their seat in the skin alone, in the subjacent areolar tissue alone, or in both, but rarely extends more deeply. It may be *congenital* or *non-congenital.*

The color of the tumor is quite red when the arterial capillary dilatation is the greatest; or it is bluish when the venous implication is in excess.

These tumors enlarge and pulsate, giving a *crawling* sensation, even to the patient himself. And after a time, when a great size has been attained, hæmorrhage occurs from the rupture of some spot in the thinned skin, which, however, closes again, this hæmorrhage recurring frequently.

The tumor is composed of enlarged and convoluted capillaries held together by loose areolar tissue, and perhaps cavities filled with blood.

The causes of Teleangiectasy are obscure: it is usually congenital, and is met with on all parts of the surface of the body, but especially about the cranium and face, the skin of which is highly vascular.

Teleangiectasy is essentially a local disease, and hence local appliances must be looked to in effecting a cure. These are varied in their character, and may be thus principally enumerated:

1. *Compression.* Successful only in very slight degrees of the disease.

2. *Destruction*, with the actual and potential cauteries, when we have subsequently an ordinary granulating and suppurating sore.

3. *By producing sufficient inflammation* in the Teleangiectasic tissue *to obliterate the vessels*, by vaccination, punctures, &c.

4. *By tying the principal supplying artery.* This is not so effectual as other methods, being, in great part, palliative in its character.

5. *By extirpation*, either with the knife, or by strangulation with the ligature. The use of the knife is not always safe, on account of the vast number of bleeding orifices which we create, from which alarming hæmorrhage will most assuredly ensue, if the tumor be large. If, however, this plan is employed, we must cut wide of the pulsating mass and in the sound tissue.

Having said thus much, the case of the patient was brought to the notice of the class. John G——, from Ireland, aged 20, has been affected since his birth with an erectile tumor of his lower lip, which, small at first, has increased with his growth, and still increases. It involves at present the skin, mucus membrane, and subjacent areolar tissue from a little to the right of the median line of the lower lip to somewhat beyond the left angle of the mouth. The gums in the immediate vicinity are deeply involved, and bleed often. The tumor is bluish red, thick, pouting, indefinitely circumscribed, and merges somewhat into the cheek above the oral angle; it also gives us the crawling pulsation, and can be emptied, in great measure, of its contents by pressure. It is stated that spontaneous hæmorrhage frequently occurs.

On carefully manipulating the tumor we can trace the main trunks of supply to the facial arteries, which vessels are found to be much enlarged. And inasmuch as the tumor itself is so extensive and involves so much important tissue, we shall give the preference, at least for the present, to the operation for the *ligation of the facial artery* upon *each side*, which is the fourth method of treatment detailed in the preceding remarks. The operation was then performed as follows:

The patient being seated, the jaws were firmly closed and the anterior edge of the masseter muscle found on the left side, whereby the exact course of the artery, and the proper position for ligation, was known. An oblique incision, one inch and a quarter in length, was now made in a direction downwards and forwards from the edge of the belly of the masseter to a little below the base of the jaw and anterior to the muscle; by these means were cut, the integument, superficial fascia and m. platysma myoides. The artery was then exposed and separated from the facial

vein, which lies upon its outer side, by means of forceps whose blades were fashioned into a form similar to a curved needle, the blunt extremities of which grasped the ligature, which was passed from the outside toward the median line, and then firmly tied. The same operation was performed upon the right side, and after the conclusion of these the pulsation ceased, and the size of the tumor had much diminished.

27th. The tumor is found to be smaller, and pulsation less evident than prior to the operation. Incisions nearly closed, but ligatures still retained.

CASE XXXIX.—*Contusion of Right Arm.*—George D——, aged 50. This injury, which exists upon the outer aspect of the right arm, was caused by a box weighing 800 lbs. falling some two feet and striking the patient at the point indicated. This occurred some two weeks since, the integument being unbroken; upon the third day after, swelling commenced, which progressed, accompanied with pain and redness, until an abscess formed; this was punctured some 48 hours back, and about half a pint of pus evacuated, since when the cavity has been contracting and the quantity of discharge is diminishing. The injury inflicted by this box, similates that of a spent cannon ball. The force being applied obliquely to the part, disorganized the areolar and muscular structures beneath without any external wound; inflammation was set up within, and abscess formed to get rid of the destroyed tissues, which act as foreign bodies, besides being too extensive for absorption alone.

Mrs. L., (Case XVI) who had a finger amputated for obstinate flexion, is presented, and the stump shown to have healed perfectly.

CASE XL.—George A——, aged 18. This patient *stepped upon a needle*, which breaking, left a fragment in his foot, whilst crossing the floor, protected by his stockings alone, the usual cause of such accidents. Pain is evinced upon pressure at one point of the sole, but as this is deep, it is not deemed advisable to cut down into it, but rather to elevate the limb, poultice the foot, and await the formation of an abscess around the foreign body, with the contents of which it will be discharged.

CASE XLI.—*Nævus Maternus*, in Mary Ellen B——, aged 22 months. This is one of the forms of congenital Teleangiectasy, consisting of an enlargement of the capillary vessels in and beneath the integument. It was first noticed as presenting the appearance of a minute scratch; since then it has enlarged gradually to its present size. which is that of a split filbert, placed upon the left ala of the nose. The proper plan of treatment, it was stated, will be to remove it without delay, which was done thus: An incision was made around the tumor, in the sound integument entirely, a straight needle was then passed beneath the base of the erectile mass from above, downward and backward, which was elevated by raising its extremities, and a surgeon's needle, carrying a double ligature, passed beneath the mass and the transfixing pin, at right angles to the latter. The two extremities of the respective cords (after the bight of the ligature had been cut) were tied firmly beneath the straight pin in the track of the integumental incision on their respective sides, the knots lying opposite each other, and the pin withdrawn. The color was now found to have changed from a bright red to a dull, bluish white. In two or three days we will find that the tumor has sloughed away, from the abstraction of all its sources of vascular and nervous supply.

24th. The tumor has become detached, and a freely granulating surface presents itself, which was touched with argent. nit. to repress an exuberant tendency which existed. The isinglass plaster was applied.

Nov. 24th. CASE XLII.—*Varus of right foot, third degree*, which occurred in a male child now aged 11 months. The operation for the cure of this affection, was performed during the last winter before the class, in the child's fifth week, by dividing the tendo Achillis by Hypodermatomy, and applying a steel sole, and leg bar for the outside of the limb, the method of employing which is given in the Examiner for December 1852, p. 785. The child is shown as presenting to us almost perfect relief from the deformity, but as there is a slight tendency to the inversion of the foot, a stiff and high gaiter has been constructed with whalebones in its outer side, which will retain the dorsum in its proper relation to the axis of the limb.

Case XLIII. *Reducible scrotal hernia, oblique descent.*—Danl. S——, aged 25, states that when in his 19th year, he strained himself, as he supposes; about two weeks after this time, a tumor presented itself in the right groin, which could be made to disappear on pressure. He has worn a number of trusses, differently constructed, but could never continue them for any length of time; the tumor consequently gradually increased in dimensions, and eventually descended into the scrotum. On examination, it is found that the recumbent posture, with slight manipulation, reduces the mass entirely, especially if we relax the muscles concerned by flexing the thigh of the affected side on the pelvis, and carrying the knee to the opposite limb. Hull's truss was then applied. This instrument is thought by Prof. Gilbert to be the best, inasmuch as its construction is the least complicated; it is therefore less liable to get out of order, and can be more readily repaired should it do so, besides which it answers effectually all the indications as an easy retentive appliance. Simplicity being here, as in other instances, the best test of usefulness.

Remarks on the subject of hernia in general, and the varied means of diagnosis, were also made in conjunction with the presentation of the case.

Case XLIV.—Mary G——, aged 37. *Contusion of shoulder and side*—produced by stumbling and falling upon a stairway. The patient had not fracture of the ribs, since there was no local *catch* in a long inspiration, and no crepitation. The motions of the humerus were proper. Treated with the application of volatile liniment and a bandage to the thorax and arm.

Case XLV. *Abscess beneath fascia lata of left thigh.*—Ellen C——, aged 8 years. This patient was brought to us for advice several weeks ago. She then complained of pain at the upper part of the thigh, which was tender to the touch. There being also lameness, it was supposed that there might be incipient Morbus Coxarius. The Tinct. of Iodine was prescribed as a local application. The Comp. powder of Jalap ordered as a purgative, and rest enjoined. To-day, we have a further development of the case, viz., tumor, which exhibits its true condition. We shall, however, defer any decided measures until the next Clinical day.

Dec. 1st. The left thigh presents a prominence just outside of the median line of the limb, and about 2½ inches below the groin; this gives fluctuation, though perhaps rather obscurely. If pus exists here, as we think it does, a timely opening should be made to prevent the infiltration of the tissues, which would certainly occur, beneath the firm fascia which binds them down so closely; and this puncture we should not neglect, as is often done, for fear of the great vessels, until a large collection of pus results. If the incision is made at the proper point outside of the axis of the limb, and in a line *parallel* with the great vessels, very little is risked. A puncture was accordingly made at the point indicated above, and about two ounces of watery and curdy discharge, with a few drops of blood, followed. The wound was dressed with dry lint and adhesive strips.

4th. No discharge to-day at all; adhesive strip applied. There is much less pain in the thigh.

Nov. 27th. Daniel D——, (Case XXXII) previously exhibited —returns with increased irritation of the lachrymal sac, resulting from the epidemic Influenza, most probably. Creasote was re-applied. Pil. cathart. comp. No. III, were ordered—and the local application of the Alum curd directed, should the irritation run into an inflammation.

Dec. 11th. This patient has improved somewhat; there is no very apparent dryness of the nose; no inflammation of the conjunctiva at the inner canthus of the eye; there is not such frequent necessity of pressure upon the sac to empty it; and but a single tear, regurgitated by pressure with the finger of the manipulator, is clear and devoid of mucus admixture. Notwithstanding, however, these signs of palliation, Prof. Gilbert states it as his experience, that in cases of this character, we cannot hope to do more than bring the affection to a stand, and to keep it there by treatment, going on as they inevitably do, if neglected, to entire closure of the duct, finally resulting in fistula lachrymalis.

Dec. 1st. *Congenital varus* in an infant, exhibited. This is to be operated for upon the 8th inst.

Case XLVI.—*Strabismus* in a child aged 4 years, exhibited, with remarks upon its treatment.

Deformity of Neck from Burn, presented, with some history of the case. To be operated for, on 4th inst.

Case XLVII. *Severe contusion of knee joint.*—Mr. M., aged 25, about eighteen months ago fell and injured the knee joint by contusion; from this, however, recovery soon occurred. Some fourteen months since, he fell and contused the same joint again, very severely. For this liniments were employed, and the patient confined himself to the house. Recovery, however, being delayed, medical advice was sought. As synovitis was evidently commencing, indicated by pain, swelling, heat, redness and inability to use the joint, Prof. Gilbert at first confined the patient to his bed, and applied the straight back splint, extending from near the pelvis to a point just above the heel, to prevent any motion, and employed repeated blistering about the joint, as a means of counter-irritation. These blisters were followed, upon healing, by Tinct. Iodine, pencilled over the parts. The Guano poultice was next used, and then blisters again, the leg being extended and motionless during the whole length of time; besides which a constitutional treatment, consisting of Bitartrate of Potassa and Jalap, as a revulsive, and Lugol's solution of Iodine as a sorbefacient, was instituted and persevered in.

By these means, some time in last May, seven months back, the natural size of the limb was restored, whereupon the ordinary *starched bandage* was applied, and the joint thus kept nearly motionless and extended, but the semi-recumbent posture was still enjoined. For the last two months the patient has been moving about upon the limb thus supported, perfectly free from pain, swelling, or unpleasant symptom of any description whatever, and is now attending to the ordinary duties in his shoe store in the city.

Case XLVIII. *Contusion of hip joint.*—Salone T——, aged 14, was knocked off of a cotton bale, and falling, struck the left hip, about two weeks since. The case was properly diagnosed as contusion, by the practitioner who was called to attend him, and a treatment by cups and counter-irritants in the vicinity of the joint, established. As now presented, we find that the patient cannot elevate the thigh, without raising the knee by his

hands, and dragging the heel along the mattress, and this with some pain, whilst there is none of the preternatural rigidity of dislocation, nor the abnormal mobility of fracture, existing, the limb being of its proper length and capable of being made to fulfil its proper motions by external aid. Severe contusion evidently has been the cause of the present disturbance of the functions of the part, and may result in synovitis, which in any, but especially in this boy's constitution (scrofulous,) would be exceedingly disastrous, falling, as the case undoubtedly would, into Morbus Coxarius. To prevent any motion, therefore, a *starched bandage* was applied in the presence of the class, and the thigh and knee, respectively, placed in a slightly flexed position, were there secured by a long splint, to be continued until the consolidation of the bandage. When this has occurred, the firm case formed by it may be cut upon the inside of the thigh, and the sound side of the body; being then padded with cotton, as required, it is to be re-secured by turns of a roller, and worn for several months, the patient being confined to the recumbent posture.

Dec. 4th. The case is progressing favorably in every respect.

Dec. 4th. J. S. (Case No. VII,) Cataract, is again shown to-day, the operation for absorption having been repeated about two weeks since. The lens was then effectually broken up, besides which, the posterior layer of the capsule (having been recently involved) was divided. The opening thus formed acts as a second pupil, and the rays of light are concentrated upon the retina through it; therefore the patient can see not only light, but can distinguish persons from other objects, and tell how many fingers are held before him readily, without any aid from a lens. It is very probable that the presence of this new pupil, by regulating the rays admitted, will enable the patient to read without the aid of glasses. Discharged cured.

CASE XLIX.—*Deformity of neck from burn, and operation for its relief.*—Hannah J. S——, of Kensington, aged 14 years, was severely burned, when 2 years old, by her clothes being accidentally fired. Burns are apt to be more severe in children than in adults, since, whilst the latter, with due presence of mind,

stand and subdue the flames by the most accessible methods, the former run wildly about for help, and increase the danger by fanning the flames, and igniting other parts of the clothing, which, but for this, would be, perhaps, untouched. The burn is, therefore, not only extended superficially, but deeply, and amounts, as in this instance, to the *third* or *fourth degree*, where the deep tissues are involved, and absolute loss of substance ensues. No doubt, had this child been somewhat older, more serious consequences still, if not death, would have ensued, from the reasons just given.

But the extent and depth of the burn are not the only difficulties which we have to encounter in the treatment and cure of such cases. No sooner are the sloughs thrown off by the process of ulceration, than very exuberant, large and flabby granulations are quickly formed, which, contracting, draw together the edges of the ulcer, like the mouth of a purse, and then skinning over, constitute a thick, uneven cicatrix, composed of what is termed *inodular tissue.* But the work is still unfinished. Interstitial absorption of this mass, if not previously set up, now commences, and thus the contractility of the tissue is again increased by these newly combined actions. As a consequence, very little new substance eventually exists in the space occupied by the burn; and that which is there becoming firm, hard and almost ligamentous, the contraction still progressing, the cicatrix is frequently raised from the substances beneath, especially if it have points of attachment, as upon either side of the flexure of joints, &c. In the case before us, the most serious portion of the burn seems to have been in the front of the neck, extending deeply; in consequence of which, all the steps in the cure, first described, have been successively established, and the great contractility of the cicatrix has approximated the lower jaw to the sternum in such a manner that all depression of the neck has vanished, the chin has been shortened and drawn backward, whilst the teeth project forward, away from the line of the arch of the upper jaw, and the head has a general inclination forward and downward, giving the patient a downcast look.

The long continued deformity has had the effect of measurably arresting the growth and expansion of the lower part of the face and jaw, and demands an operation, for the purpose of a!-

lowing the progression of proper development and the production of unrestricted powers of mastication, as well as for the comfort of the individual and the relief of the unsightly deformity.

The patient being seated, a transverse incision was made with a scalpel on the anterior part of the neck, from right to left, about 6 inches in length, dividing the adventitious structure down to the normal fascia beneath, and the head extended, whereby the chin became instantaneously prominent. At a point some 2½ inches to the *right* of the extremity of the first cut, the scalpel was now made to enter the integument, and an incision extended downward on the shoulder 7 inches, then giving a rounding cut, it was carried up parallel with and 2½ inches from the first incision, entering the transverse cut at its *right* extremity.

The flap thus formed was dissected up from the muscles beneath, rotated to the left upon its base, and placed in the gaping wound produced by the separation of the lips of the first incision. Here, after the approximation of the edges of the wound in the shoulder in a like manner, it was secured by 16 fine steel needles, No. 12, and the twisted suture, with adhesive strips between them. Strips were also placed between their projecting extremities on either side and the integument, also superficial to them. The entire number of needles inserted both in the shoulder and neck was *twenty-two*, of which only *two* were of great size; one of these being placed at the angle of the shoulder and neck cuts, and the other on the shoulder itself.

The employment of a *number* of *small needles*, is an improvement on the old method of using fewer but of larger size, inasmuch as the irritation set up by the presence of the former, is not by any means so great as with the latter.

Very little blood was lost, and, although the operation from its extent was necessarily somewhat tedious, it was borne unusually well, by one so young. Anæsthesia was resorted to during the earlier stage of the proceedings, but was not employed thereafter. Patient retained at the College for subsequent treatment.

Dec. 8th.—Since last Saturday, (4th) the patient has fallen under the effects of the Epidemic Influenza, now so prevalent, which has complicated the case in a very serious manner. Distressing cough, which has a constant tendency to disturb the

union of the flap, exists, together with marked febrile symptoms of no favorable kind. The treatment to this time has been (on the 6th,) Mass. Hydrarg, gr. vj. followed in two hours by Calcined Magnes. ʒij

On the 7th she had dark, copious and fetid evacuations, after which some relief of all the symptoms was experienced. She was then given:

℞. Liq. Potass. Citrat. fʒviij.
Ant. et Pot. Tart. gr. j.
M. S. fʒss. every two hours.

The adhesive strips were for the first time removed on to-day, (the 8th) and re-applied. Union in about three-fourths of the lower border of the flap, being found nearly completed, ten of the needles were removed after the appliance of the plasters. Not much more than a fluid-drachm of pus has been formed up to this time. The fever has almost entirely subsided.

Dec. 18th.—Union by adhesion has been prevented, even in parts seemingly united by the first intention. The suppuration set up required daily dressings. On the 12th, all the needles were removed. The edges of the wound from which the flap was taken, were drawn about an inch asunder by the tension of the adjacent integument; and the extremity of the flap, by its own elasticity, parted to a like extent from its connection with the sound skin on the left side of the neck. By daily renewal of adhesive plaster, and the introduction of a suture at the extremity of the flap, the parts have been kept in apposition sufficiently well for favorable union by second intention, so that to-day (18th) the case may be reported as progressing very favorably towards union of all the parts involved in this very extensive and important operation.

Dec. 8th.—John P. (Case XXVII,) *Tenotomy.*—The wrist is now shown perfectly extended, although much restricted in its movements by the long confinement it has experienced. As the punctures have perfectly healed, and the tendons have doubtless united, the splint is directed to be frequently removed and passive motion given.

Case L.—*Congenital Varus of both feet, second degree,* in

George W. S——, aged 4 months. The tendo Achillis of each limb was divided by subcutaneous section in the usual manner, and the apparatus, whose description was given in Med. Exam. for Dec., 1852, (page 785, article, Adhesive Plaster in Surgery, by D. Gilbert, M. D. etc.,) applied as there directed.

Dec. 15th.—Apparatus removed and reapplied. The wounds have healed entirely, and the feet are nearly in their normal position. The progress so far is of the most encouraging character.

Dec. 11th.—A large *Tumor of the Neck*, in a female, was exhibited, and the history of the case given.

This person will be presented for the necessary operation hereafter.

Dec. 15th. Case LI.—*Malignant Tumors beneath Lower Jaw.*—Mr. G——, aged 60, states that about a year or two since a scirrhous tumor was formed in his lower lip. This was removed, and the parts healed well afterward. Within the last four months, however, tumors have formed below the jaw and near to its angle; these are now about the size of a walnut, and have firm attachments to the surrounding tissues. As the removal of these tumors is strongly contra-indicated, the patient is advised to abstain from all cauteries and other irritating appliances, lest ulceration and more speedy death should ensue than if they were left undisturbed.

The ordinary reliable alteratives, however, may be employed, as Donovan's solution, Comp. Decoct. of Sarsaparilla, &c., but at best we can only palliate and endeavor to avert death by guarding against improper appliances of every description.

Case LII.—*Polypus Nasi.*—George F——, aged 81 years, has a Polypus in his right nostril, which has been increasing for about two months. Several have been removed at two distinct sittings previously, by another physician. This, which was removed by torsion, was found to be of the mucous variety, and of moderate size. This case is worthy of notice on account of the polypus appearing, for the first time, so late in life.

BIBLIOGRAPHICAL NOTICES.

A System of Operative Surgery; based upon the Practice of Surgeons in the United States, and comprising a Bibliographical Index and Historical Record of many of their Operations for a period of two hundred years. By HENRY H. SMITH, M. D., &c. &c. *Illustrated by numerous steel plates—Parts 1st, 2d, 3d, 4th and 5th* (complete in one vol. 8vo., pp. 698, including index, and 80 plates.) Philadelphia, 1852: Lippincot, Grambo & Co.

In the publication of parts 4th and 5th of Dr. H. H. Smith's Operative Surgery, our readers will be glad to find the completion of his work. We congratulate the author upon the termination of his arduous task. He has good reason to rejoice with all concerned at the very handsome appearance of the volume of colored plates, in which the result of his labors has at last been presented to the public. We cannot discover that there has been any falling off in the preparation of the concluding portions, which it is our business now to notice. On the contrary, we are inclined to think that some improvement has been gained, at least in the coloring of the plates, if not in their general execution.

Part IV. is devoted to Operations on the Genito-Urinary Organs and Rectum. It is divided into five chapters, containing in all about one hundred and four pages, and illustrated by sixteen plates. The first of these chapters is occupied with operations on the male genito-urinary organs, and treats in different sections successively of the surgical anatomy of the parts concerned, of operations on the penis, on the urethra, on the spermatic cord, and on the testicle. Chapter 2d has for its subject, stone in the bladder; and in this connection it presents us with the surgical anatomy of the male perineum, and with the different operations of lithotomy. Chapter 3d discusses the operation of lithotripsy; and in chapters 4th, 5th, 6th and 7th, we find, in regular order of succession, descriptions and representations of operations on the female genito-urinary organs, operations for vaginal fistula, operations practised on the deep seated repro-

ductive organs of the female, and lastly, of operations practised on the rectum.

Part V. concludes the work with an account of operations on the extremities, in eight chapters and eighty-six pages, these latter being accompanied with sixteen beautifully engraved and colored plates. Chapter 1st of this part gives us, under the caption of general operations on the extremities, some observations on the operations for inverted toe-nail, for the cure of paronychia, for the cure of enlarged bursæ, for the relief of certain conditions of the nerves, onthe management of varicose veins, and on the operations of tenotomy. Chapters 2d and 3d describe the ligature of the arteries of the upper and lower extremities; chapters 4th and 5th treat of operations on the bones of the two extremities. Chapter 6th is occupied with general remarks on amputation; and chapters 7th and 8th are devoted to the particular amputations.

Of the thirty-two plates belonging to the concluding chapters just enumerated, the first four are occupied with the instruments employed in operations on the urethra, and with operations practised on the penis, urethra, and the testicle and cord. Then we have five plates devoted to the instruments and operative procedures required for the removal of urinary calculi, including, of course, the usual modes of operating by lithotomy and lithotripsy. Next in order comes a plate which represents a great variety of instruments employed in operations upon the vagina and the rectum. This is followed by four plates, intended to represent the different operations upon the female genito-urinary organs; by two plates exhibiting the operations practised on the rectum; by four plates, in which are shown the deligation of the arteries of the two extremities; by two plates displaying the different resections of the bones of the extremities; and lastly, by one plate presenting the instruments for amputation, and by nine, in which are figured the several amputations of these extremities.

So much for the topics of text and illustration which constitute the material of Dr. Smith's concluding parts. The very brief summary which alone we have been able to offer in this place, will serve, we trust, to show that they are fully equal, in the variety and interest of their contents, to their predecessors already presented to our readers. A careful scanning

of their pages, although, as a matter of course, bringing to our notice much that must meet with general approval, and more or less about which there might be a difference of opinion, has nevertheless suggested very little that was possessed of novelty or unusual interest enough to authorize any special comment. It may suffice to note in passing, that of the many well known operations with which the names of American surgeons are connected, he presents us in this portion of his work, among others, with figures and accounts of those for lacerated female perineum, introduced and successfully performed by Mettauer and Horner, for vesico-vaginal fistula by Hayward, Mettauer and Marion Sims, for recto-vaginal fistula by Rhea Barton, for ovariotomy by McDowell and W. L. Atlee, for Cæsarian section by Gibson, for extirpation of the uterus by Esselman and P. F. Eve, for encysted rectum by Physick, for excision of hemorrhoids by Horner, for fistula in ano by Gibson, for anchylosis by Rhea Barton and Gurdon Buck, Jr., and for the introduction of the seton in false joint or ununited fracture by Physick.

Under the head of perineal fistula we are glad to observe a description of the mode of operating which Dr. W. E. Horner has for a long time employed and recommended, but we cannot help regretting that the whole subject of stricture and perineal disease and injury is so hastily dispatched. The management of the prostatic and other portions of the male urethra involved in these perineal dyscrasies is so vitally important and has been of late so frequently discussed, that a few meagre paragraphs and a single operative procedure would hardly seem a fair proportion of attention to it in a systematic work which, notwithstanding the disclaimers of its preface, is manifestly offered as the first attempt at an embodiment of American Operative Surgery, and in which far less interesting questions are allowed to occupy a greater space. The same objection might be made, without injustice, and in some instances with much stronger reason, to other portions of our author's pages, in the earlier as well as later parts. Some of these short-comings are doubtless the result of haste in preparing for the press; or, as intimated in the preface, they could not easily be avoided in a book of plates without an inconvenient development of bulk; some of them arise, perhaps, from mere inadvertence of revision

—to which, by the by, must be attributed the lack of grammatical elegance and perspicuity of language observable in many places. But admitting, with a judgment of charity, that such accidents are excusable, and may not materially impair the standing of an authoritative work, we are still forced to conclude that some of his omissions and superficial modes of treating certain subjects are intentional, and the deliberate result of his particular views. What, for example, are we to suppose of the state of American aural operative surgery if we are to judge from the following cavalier disposal of it in the remarks with which the section on operations on the ear concludes ?

"The almost universal necessity that exists in the United States for every surgeon to practise several distinct portions of his profession, as well as the absence of definite instruction in these complaints, usually noticed in the ordinary courses of education of our medical schools, has, for many years, induced the majority of the profession to shun the treatment of aural complaints, and forced patients into the hands of empirics. All the operations upon the ear are, however, so easily practised, and the character of the complaints requiring them so very limited, that this condition of things may be remedied by any surgeon. [!]

"In order to prove this, an effort has now been made to describe, as fully as is necessary, all the ordinary operations required for the relief of deafness, and if the reader will follow the description, in connection with the plates, he will, it is hoped, find them quite full enough. Pages have been written on most of these operations, but with the tendency to confuse and embarrass rather than encourage the reader. Washing out the external and internal auditory tubes, with perforation of the membrana tympani, or perhaps the mastoid cells, really constitutes the entire portion of aural operative surgery, and are certainly easily executed. [!!] The prognosis of the complaints requiring these operations is, it is true, often doubtful, or decidedly unfavorable; yet, it should be remembered that, even when unable to cure, a surgeon may effect much good by assuring the patient of the impossibility of his being relieved, and every operator should, therefore, gain such an amount of practical skill as will enable him to give an opinion. By washing out the meatus externus, and examining the condition of the membrane of the tympanum; by catheterizing the Eustachian tube, or by perforating the membranum tympani, and testing the permeability of the passage to the throat, as above described, much advantage will often be gained by the patient, whilst many persons will be saved from the hands of unprincipled men, who, in the majority of cases, only do them harm." [!!!] (pp. 219, 220.)

We do not believe in the necessity for exclusive devotion to the study of this or of any other department of surgical practice; and we would be sorry to admit the existence of such a lamentable state of ignorance in "the majority of the

profession," whether among specialists or not, in regard to diseases of the ear, as the foregoing extract would lead us to imagine.

Again, under the head of means of radically curing reducible hernia, we are treated to the following bright light on an old question.

"After the reduction of a hernia and the application of a truss, the patient is secure for the time from the danger of strangulation, and though it has been asserted that radical cures have been effected by the constant use of the instrument, inducing such adhesions and induration of tissue as plugged up the ring, my opportunities (and they have not been slight) have never enabled me to see one well grown adult who had obtained this result from the use of an instrument. In children and young persons, such a condition has been created as prevented the reproduction of the complaint for years; yet, even in these patients, the success has been far from constant.

"The most, therefore, that can be asserted of any truss is, that after its application, the patient is not liable to a descent of the hernia, provided it fits well, and is constantly worn. The manufacture and application of these instruments having, in many sections of the country, passed into the hands of ignorant men, professional evidence of the advantages resulting from the use of any particular kind of truss is rare. Some, I think, do more harm than good, and the surgeon should, therefore, make it his duty to examine the mode in which the truss is worn, as the instrument is often so badly adapted to the part as to increase the complaint.

"It being generally admitted that little or no reliance can be placed upon a truss for the accomplishment of the radical cure of hernia, several surgeons have endeavored to find some other means of effecting this important object. Most of these, though differing in the details, have had one grand object in view, and that is, the creation of such a condition of the parts as would effectually and permanently close the opening." (p. 413.)

This free and easy way of solving our doubts as to the radical cure of hernia by trusses, does not happen to agree with very respectable evidence against his confident assertion in our own country, and certainly does not accord with the very positive experience of European surgeons, as may be easily ascertained by reference to the works of authors of repute on both sides of the channel.

Once more; in the concluding paragraphs of his remarks on the lateral operation he thus disposes of the Gorget question.

"There are, however, many surgeons in the United States who do not use the gorget, preferring a beaked knife, of various shapes, most of which are apparently favorites, from having been designated by the name of the inventor. In many instances, such knives are only poor modifi-

cations of a gorget; they act in the same manner, but do not make so accurate an incision, and are liable to create an opening in the pelvic fascia by leading the operator to incise the prostate to too great an extent laterally. In a deep perineum, it is always difficult to judge of the position of the point of a knife, even when apparently directed by the left fore-finger; but with a staff held in the median line of the body, with its curve close under the pubis, and with the beak of a gorget well placed in it, it is impossible to extend an incision beyond the limits of the width of the blade. This subject is, however, one which has engaged powerful advocates on both sides, and I shall, therefore, dismiss it with the simple statement of individual preference for the gorget of Physick, though, at the same time, I should not hesitate to cut for stone with a staff and pocket bistoury, if nothing else could be obtained, nor doubt the possibility of a surgeon operating neatly and properly with any instrument when a correct anatomical knowledge of the structure concerned was made to direct it." (pp. 522, 523.)

Fortunately for the guidance as well as reputation of American surgeons, this same question, so far as substitutes for the gorget are concerned, is more fully, as well as modestly, discussed by the only other recent American writer—one who certainly enjoys the most extended reputation, at home and abroad, to say nothing of his numerous operations, and his long course of practice and teaching as a surgeon of the highest standing. Yet, although an opponent of the gorget, Dr. Gross, to whom we allude, does not allow us to suppose that even with his authority he would thus contemptuously treat the instrument which, old-fashioned and almost disused as it is, Dr. Smith chooses to style the type of all—the one *par excellence*—of which the different forms of knife constantly preferred by the first surgeons in the world are only so many poor modifications.

These quotations have been taken as we happened to be struck with them in looking through the book. We might add many others equally characteristic; but there is enough already to acquit us of unfairness in expressing the opinion which, as conscienceious reviewers, we are forbidden to withhold, that our author does not afford such a "comprehensive view of the opinions, operative methods and instruments of those of his countrymen who have given to American surgery a character of its own," as the language of its title and preface would imply to be the grand object of his work.

We have not the least desire to quarrel with his individual opinions in regard to the theory and practice of his art, so long

as they are allowed to rest solely upon his personal responsibility, and to go for what they may be individually worth. But we cannot aid in presenting them to the professsion under the guise of a national authority, or even the prestige of a strictly native origin. Let the "system" to which they are attached be avowedly established on the "basis" of their author's individual opinions and experience, and not upon that of the "views of his own countrymen," or of the practice of American surgeons in general, and we will bow to his decisions with all the deference due to the superior advantages and opportunities which his seventeen years' devotion to his favorite branch has given to him. We are aware of the tendency of the "sovereigns" of our democracy to imagine their doings and sayings to be American, merely because they happen themselves, as individuals, to belong to the American nation. We know that we are all too apt, in our republican simplicity, to mean "I, the people," when we say "we, the people"; and our only hope in connection with this new competitor for national distinction is, that strangers as well as natives may not fall into the common error. Our friend's book, however creditable to himself and advantageous to us all, cannot afford us an adequate idea of the actual state of surgery on this side of the Atlantic. This could not be expected in its limited amount of space for letter press, and with its independent doctrines in regard to different subjects; while the very large preponderance of European illustrations and the number of operative precepts—nearly all the amputations for example—taken directly from the French, (see p. 665,) give it rather the aspect in some parts of a Parisian compilation. The materials for a genuine cis atlantic work may yet be had abundantly within the reach of those amongst us,—and there should be many such—who are competent and not afraid to use them. The task, however discouraging it may now appear, must sooner or later be fulfilled, without this resort to the enervating draughts from foreign sources, which of late years have been the curse of so many of our publications. No man need go to Paris or London now to learn how to amputate a limb or extirpate a tumor, resect a bone, extract a calculus—in short, to effect the greatest triumph which surgical art and science, under Providence, have ever yet achieved. Why, then, this never-ending slavery to the

parasitic feebleness which will scarcely allow us, without resorting to an unknown tongue, to show our pupils how to perform the simplest operation?

Let us not be understood in these remarks to be harboring any prejudice against the work before us, because it happens, from the predilections of its author and his peculiar opportunities, to savor more of European continental surgery than we are inclined to regard as needful in the United States. We have no intention to criticise his taste or judgment as singular in this particular connection, for we admit that he has only followed a prevailing fashion; and we can, and most cheerfully do, recommend his work, whether original and national or not, as the handsomest and most convenient atlas and illustrated outline of operative surgery that has yet appeared in this country, and therefore, one that must prove in a high degree valuable to students, teachers and practitioners. We can recommend it, too, as desirable and important in its influence on account of its many detailed reports of operations by American Surgeons, and of its bibliography; although this latter might have been made a little more complete in several places, without injury to the rest. But we do not venture to endorse it as an epitome or mirror, to use a popular term, of the operative surgery of our own land. Nor, do we mean to say that it is offered, or will be anywhere received as such; and we only have suggested the idea at the risk of making what may seem to be an invidious and gratuitous distinction, in order to clear ourselves, if possible, from the imputation which our notice of the first and second parts has placed us under of favoring such a view. We extended a cordial welcome, in spite of some misgivings at the outset, to an undertaking which bid fair to prove one of the most extensive that had ever been ventured on by an American publisher; and our regard and respect for the enterprise and energy of all concerned led us then, as they do now, to wish them the most flattering success. But we cannot leave them without expressing the disappointment which we sincerely feel, not only at the want of truly native hue in the compilations of the text, but at the almost exclusive preference manifested, in letter press as well as illustrations, wherever foreign aid is resorted to, for French works (and especially the superficial manuals,) to the more practical and

substantial productions of the British press. The book, as a specimen of printing and engraving, is most attractive in its getting-up, however; and, although it does not accomplish all that we would like to see effected by such a publication, it still goes far beyond anything we have yet known in its class, and gives us much more, perhaps, than, according to ordinary calculation, we had a right to expect.

A Practical Treatise on Diseases of the Skin. By J. Moore Neligan, M. D., M. R. I. A., Lecturer on the Practice of Medicine in the Dublin School of Medicine, &c. &c. Philadelphia: Blanchard & Lea, 1852. 12mo. pp. 333.

The Diseases of the Skin constitute an exceedingly important department of nosology, of which, with comparatively few exceptions, practitioners of medicine are lamentably ignorant. This want of knowledge does not depend upon any deficiency of publications upon the affections in question, for such are abundant in the English, French, and German languages, and many of them are accompanied with more or less faithful pictorial representations of the various eruptions described. The difficulty is ascribable partly to peculiarities connected with the diseases themselves, and partly to confusion in the modes of their classification and description. To most physicians they certainly present no special attractions; but, on the contrary, much that is repulsive, in their frequently unsightly appearance, and the not uncommonly disagreeable odor which they occasion. Moreover, they are usually the concomitants, and indeed frequently the result of poverty and filth, and consequently can contribute less to the social position or to the emoluments of the physician than most other complaints which are more equally visited upon all classes of mankind. Again, most of them do not so much interfere with the ordinary pursuits of their victims, as to induce them to resort early to means of cure. And in this country, particularly, there being no public institution for the especial treatment of skin diseases, clinical instruction upon them has never been attempted in any regular and methodical manner; hence young men enter upon the active practice of their profession with the most imperfect notions concerning the diagnosis, and with very empirical views about the treatment of them.

The learner might commence the study of these affections with more hope and zeal, did he see a greater degree of harmony prevailing among dermatologists with reference to the important point of diagnosis. But, inasmuch as the very same disease wears at different stages an entirely different aspect, it has received one appellation from this writer, and another from that; so that at the very threshold of his inquiries the student is perplexed and disheartened.

The two different bases for the classification of cutaneous diseases which are now most prominently presented, are the *artificial* and the *natural*, as they are termed. The first depends upon the specific form and appearances which the eruptions exhibit; the other upon the anatomical seat of the eruption, or, upon the immediate pathological lesion or modification of structure which it indicates. The first was proposed, as Dr. Neligan informs us, by Riolanus, revived by Plenck, and received currency and character from Willan, whose classification, in its essential features, is to this day regarded as the best adapted to facilitate the recognition of the diseases of the skin. The natural systems of classification are chiefly those of Wilson and Cazenave. Mr. Wilson adopts as the basis of his arrangement the anatomy and physiology of the skin, and makes four primary groups of the eruptions which appear upon the latter, viz:

1. Diseases of the Derma.
2. " " Sudoriparous glands.
3. " " Sebiparous glands.
4. " " Hair and hair follicles.

Each has several sub-divisions. M. Cazenave includes all cutaneous affections under eight classes, each of which is founded upon some pathological modification of the structure or properties of the skin, viz:—1, Inflammation; 2, Lesions of Secretion; 3, Hypertrophies; 4, Deteriorations; 5, Hæmorrhagiæ; 6, Lesions of Sensibility; 7, Foreign Bodies; 8, Diseases of the Appendages, embracing the hair and the nails.

If scientific accuracy alone were desirable in a nosological arrangement, as in the classifications of Natural History, it must be confessed that the system of Wilson, which starts from known and always verifiable data, would be the best for cutaneous diseases. But in the examination of these, facility of application

must be an important consideration in determining what mode of classification to adopt, and in this respect we cannot but think that the method of Willan possesses advantages over any "*natural*" arrangement yet proposed. It was originally open to serious objections, of course; but it has been of late years so much improved as to be not more amenable to criticism than those which have been advanced to supercede it. The chief objection urged against it is that the characteristic form of the eruption is subject to such changes,—the papule becoming vesicular, the vesicle pustular, &c., from accidental circumstances,—that it may be placed in every group but the right one. It rarely happens, however, that a careful examination will fail in detecting its proper and specific form.

The treatise of Dr. Neligan, which we have already cited by its title, advocates the Willanean system, with the modifications and improvements to which we have just alluded. The author says, "In proceeding to describe the classification of diseases of the skin which I intend to adopt, I wish, *in limine*, to disclaim any pretensions to originality. My chief object is to endeavor to simplify a subject which has often not received from the student and practitioner the attention it merits, owing to the difficulties with which complicated arrangements and even changing nomenclatures have invested it. I shall therefore take advantage of the labors of those who have preceded me, and endeavor to reduce the grouping together of cutaneous eruptions to as few sub-divisions as attention to accuracy will admit."

The arrangement which he adopts is exhibited in a tabular form, as follows:

Order.		Genera.
1. Exanthemata,	comprising	Erythema, Erysipelas, Urticaria, Roseola.
2. Vesiculæ,	"	Eczema, Herpes, Pemphigus, Rupia, Scabies.
3. Pustulæ,	"	Acne, Impetigo, Ecthyma.
4. Papulæ,	"	Lichen, Prurigo.
5. Squamæ,	"	Psoriasis, Pityriasis.
6. Hypertrophiæ,	"	Ichthyosis, Molluscum, Stearrhœa, Elephantiasis, Verruca, Clavus, Callositates, Condylomata, Nævus.
7. Hæmorrhagiæ,	"	Purpura.
8. Maculæ,	"	Vitiligo, Ephelis.
9. Canerodes,	"	Lupus, Keloïs.
10. Dermatophytæ,	"	Porrigo, Sycosis.

Supplementary Groups.

Syphilides,
Diseases of the appendages of the Skin.

The simplification is more conspicuous in the diminished numbers of the varieties included in each of the genera.

Thus, Erythema comprehends, in the arrangement of Dr. Neligan, three varieties: E. simplex, E. papulatum, and E. nodosum. Erythema simplex is made to embrace the E. fugax, E. læve, E. intertrigo, E. marginatum, and E. circinnatum of some other writers,—varieties which depend for the shades of differences which they exhibit upon some peculiarity of the skin in individuals affected, or upon the localization; but which do not present features so striking as to demand a specific designation.

Of *Acne* he makes but two varieties, calling them after Willan, A. simplex and A. rosacea, rejecting as not deserving special designation the other two varieties of the same author, A. punctata and A. indurata.

Again, he indicates but two varieties of Ecthyma, E. acutum and E. chronicum, instead of the more numerous varieties described by Willan and others, and which are separated from insufficient motives, as the age of the patient, the color of the eruption, and the constitutional cachexia.

In like manner, we might pass over all the orders and genera included in the classification of Dr. Neligan, and show that in almost all of them his pruning-knife has been judiciously exercised in lopping off supernumerary branches which can bear no good fruit for the cultivator of this field of pathological inquiry. We think that in general his modifications are improvements.

The descriptions which he gives of the different affections are sufficiently clear and precise, and the rules for diagnosis will materially assist in the determination of the order and genus to which any doubtful eruption should be ascribed.

He combines in his account, so far as can conveniently be done, the advantages of the natural and artificial system of classification, by not only describing the specific form and appearances of each eruption, but by also designating its anatomical seat and its pathological character. The descriptions are short and are in a great measure pathological definitions.

The treatment recommended is evidently the result of the

author's own experience, for it is advised decidedly, and very generally accompanied with an assurance of its utility. The treatment of diseases of the skin is fast losing the empirical character which so long tainted it, when the materia medica contained but three or four articles which any one thought of using in the treatment of cutaneous affections,—Sulphur, Tar-ointment, and Arsenic, to which might be added, from the practice of some one more ambitious than his fellows, mucilaginous baths. Were a physician of the old school of practitioners, one who had not kept himself informed of the improvements, introduced into the various departments of medicine, and particularly into the therapeutics of diseases of the skin, to be suddenly shown the long list of medicinal agents now to be chosen from, he would be struck with amazement at the change.

This department of the subject has occupied a large share of Dr. Neligan's attention, and to it he devotes perhaps the most considerable portion of his book. The details of the treatment of each eruption are given in immediate connection therewith; and in addition to this, the concluding chapter of the volume is consecrated to a review of the general and special therapeutics of cutaneous diseases. The reader will here find a great deal of valuable information upon this subject, together with numerous formulæ for lotions, baths, and for internal administration. The author's recommendations are based upon sound pathological and physiological views, and possess the essential requisite of being the results of his own careful observations. They are comprehensive in their bearing; having regard not to the mere name of the disease, but to the state and stage of the eruption, the peculiar departure from the normal condition of the skin at the part affected, and also of internal organs, and the constitutional condition.

To the beginner, and to the physician who wishes a useful and not voluminous manual to assist his examinations in cutaneous affections, we can highly recommend Dr. Neligan's book. Those who wish to study fully this interesting and neglected class of diseases must, of course, possess themselves of more extended treatises.

We regret to have observed, in perusing this volume, that the American reprint bears evidence of having been hastily passed

through the press. It contains very many typographical errors, which could have been easily avoided by greater care on the part of the *employés* of the printing office.

A Memoir of the Life and Character of JAMES B. ROGERS, M. D., Professor of Chemistry in the University of Pennsylvania. By JOSEPH CARSON, M. D., Professor of Materia Medica and Pharmacy in the University of Pennsylvania. Delivered by request of the Faculty, October 11, 1852, and published by the Class.

This elegant Memoir is a tribute in every way worthy of the subject; distinguished alike by the unaffected simplicity and refined earnestness, which were so eminently characteristic of the lamented colleague of the biographer.

There was much in the career of the late Dr. Rogers to elicit sympathy—especially in his long unrewarded struggles and premature demise, almost immediately after he had reached the goal; and Dr. Carson has delineated it with his proverbial good taste, and all the warmth of long attachment and close intimacy.

The life of Dr. Rogers offers points of much interest to the young aspirant for medical honors. He was emphatically a self-made man. And, when he finally attained the honorable and important post, which he filled for so brief a space, his promotion was strikingly the result of merit unaided by influence; and his selection by the Trustees, and approval by the Faculty of the University, was confessedly but the registration of "the earnest wishes in his behalf and the partiality of the profession."

Dr. JAMES B. ROGERS was born in Philadelphia, in 1803. He graduated in Medicine in 1822, at the University of Maryland, and, almost from the commencement of his professional career, devoted himself to the speciality of chemistry. His first appearance as a teacher was in the chair of Chemistry, in the Washington Medical College of Baltimore. From 1835 to 1839, he occupied a similar position in the medical department of the Cincinnati College. Upon the close of that institution, he returned to Philadelphia, and was soon afterwards engaged in the Philadelphia Medical Institute, where he continued for several years to lecture on the same branch. In 1846, he filled the chair of Chemistry in the Franklin Medical College, of this city, and in

1847, upon the resignation of Professor Hare, he was chosen, "after a spirited canvass," with great unanimity to succeed him. He filled this situation for five years with the highest popularity; when, shortly after the close of the last session, he fell a victim to an insidious disease, which, it appears, had been gradually but surely fixing its hold upon his constitution.

The subjoined feeling allusions of Dr. Carson to the moral attributes of his friend and colleague, will, we know, be responded to with singular warmth and unanimity by the profession and community of Philadelphia:

"He was an object of affectionate regard to those who knew his social worth. Disinterested and generous in his relations with the world, mild and conciliating in deportment, open and affable when approached, urbane to every one, his virtues shone conspicuously within the circle of his friende. With his pupils he was sympathizing; he entered cheerfully into their discouragements and difficulties; and those who confided to him, received that encouragement and counsel so grateful to the student's feelings. He was emphatically the student's friend. In his death, a sore bereavement has befallen us; and we may be permitted to give utterance to our sentiments of sorrow. The grave may conceal from view his mortal lineaments, but they are engraven upon our recollection. A portraiture, distinct and vivid, with all the freshness that affection can give to it, will ever be before our mental vision."

THE MEDICAL EXAMINER.

PHILADELPHIA, JANUARY, 1853.

The press of original matter in the present number, (much of which has been delayed from previous numbers,) has so circumscribed our space, that we must forego our usual salutation to our readers, on the commencement of a new volume. We must, however, express our acknowledgements for the steadily increasing support with which our editorial labors have been encouraged; and we may also briefly add, that we shall relax no efforts to maintain the position of the Examiner in every department—original, bibliographical, clinical, and selected. If the usual limits of the last have been somewhat curtailed of late, we trust that our readers have been repaid for the temporary omission, in the value of our original matter and the elaborate character of our bibliographical notices; and we beg to assure them that the abridgement of the 'Record' is only temporary.